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Bryan, Pendleton, Swats & McAllister, LLC
A Wells Fargo Company

Tennessee Consolidated Retirement System

WEAKLEY CO MUNICIPAL ELECTRIC SYSTEM-DB

GASB Statement No. 68

Actuarial Report
Reporting Date: June 30, 2015

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Accounting Governance Background

Statement No. 27 of the Governmental Accounting Standards Board was amended by Statement No. 68 of the Governmental Accounting Standards Board. Statement No. 68 became effective for employer financial statements for the fiscal year beginning after June 15, 2014. Statement No. 68 establishes financial reporting standards for state and local government employers with pension plans that are administered through trusts or equivalent arrangements. The objective of this statement is to improve the usefulness of the information included in employer financial statements.

Purpose and Use

This report has been prepared exclusively for the Tennessee Consolidated Retirement System. Actuarial computations under Statement No. 68 are for purposes of fulfilling employer governmental accounting requirements, and may not be appropriate for other purposes. The calculations reported herein have been made on a basis consistent with our understanding of the statement. Bryan, Pendleton, Swats & McAllister, LLC is not responsible for consequences resulting from the use of any part of this report without prior authorization or approval. This report provides actuarial advice and does not constitute legal, accounting, tax or investment advice. Determinations for other purposes, such as funding, bond ratings, or judging benefit security, may be significantly different from the results shown in this report.

Actuarial findings in this report are based on actuarial assumptions which reflect expected plan experience. Although the deviation of the actual future plan experience and the expected experience inherently creates some uncertainty with the results, in our opinion the actuarial assumptions reasonably reflect the expected future experience of the plan. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan’s funded status); and changes in plan provisions or applicable law. All of these factors can cause volatility in the Net Pension Liability (Asset) over time.

Data

The calculations shown in this report have been prepared using employee data (including covered-employee payroll) and plan documentation furnished by the Tennessee Consolidated Retirement System as of June 30, 2014. Plan asset information was furnished by the Tennessee Consolidated Retirement System for the twelve month period ending June 30, 2014. While we have not audited the data, we have reviewed it for reasonableness and internal consistency. We have made reasonable assumptions with regard to any incomplete records, and to the best of our knowledge, there are no material limitations to the data provided. A complete summary of the census data utilized in this report is available upon request.

Subsequent Events

We are unaware of any subsequent event after June 30, 2015 which would have a material effect on the results presented in this report.

Assumptions, Methods, and Procedures

The results presented in this report comply with the assumptions, methods, and procedures under Statement No. 68. The results are based on a June 30, 2014 actuarial valuation date, a measurement date of June 30, 2014 and a reporting date of June 30, 2015. All assumptions are selected by the TCRS Board of Trustees. Statement No. 68 mandates the use of the Entry Age Normal actuarial funding method.

Changes in Plan Provisions, Actuarial Assumptions, and Actuarial Methods

No changes were made to the plan provisions, actuarial assumptions and methods at the June 30, 2014 actuarial valuation date compared to the most recent funding valuation completed as of July 1, 2013.

Summaries of the plan provisions and actuarial assumptions can be found in the Basis for Valuation section of this report and in the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013.

Professional Qualifications

This report has been prepared under the supervision of Justin C. Thacker, a member of the American Academy of Actuaries, a Fellow of the Society of Actuaries, and a consulting actuary with Bryan, Pendleton, Swats and McAllister, LLC, who has met the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions herein. To the best of our knowledge this report has been prepared in accordance with generally accepted actuarial standards and our understanding of Government Accounting Standards Board Statement No. 68, including the overall appropriateness of the analysis, assumptions, and results and conforms to appropriate Standards of Practice as promulgated from time to time by the Actuarial Standards Board, which standards form the basis for the actuarial report. We are not aware of any direct or material indirect financial interest or relationship that could create, or appear to create, a conflict of interest that would impair the objectivity of our work. The undersigned are available to provide supplemental information or explanation.

Justin C. Thacker
Fellow, Society of Actuaries
Enrollment No. 14-6078
Phone 615.665.5387

October 15, 2015
Date

Tim C. Lavender
Fellow, Society of Actuaries
Enrollment No. 14-6745
Phone 615.665.5305

October 15, 2015
Date

Summary of Plan Provisions

The actuarial valuation includes all benefits provided by the Tennessee Consolidated Retirement System to the current active and inactive plan members. Benefit provisions include retirement, death and disability benefits. If applicable, post-retirement cost of living adjustments are included. Please refer to the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013 for a complete summary of plan provisions.

Summary of Actuarial Assumptions and Methods

Investment Rate of Return

7.5 percent per annum, compounded annually

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees in conjunction with the June 30, 2012 actuarial experience study by considering the following three techniques: (1) the 25-year historical return of the TCRS at June 30, 2012, (2) the historical market returns of asset classes from 1926 to 2012 using the TCRS investment policy asset allocation, and (3) capital market projections that were utilized as a building-block method in which best-estimate ranges of expected future real rate of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. Four sources of capital market projections were blended and utilized in the third technique. The blended capital market projection established the long-term expected rate of return by weighting the expected future real rate of return by the target asset allocation percentage and by adding inflation of 3 percent. The target allocation and best estimates of arithmetic real rates of return for each major asset class are summarized in the following table:

Asset Class	Long-Term Expected Real Rate of Return	Target Allocations
U.S. equity	6.46%	33%
Developed market international equity	6.26%	17%
Emerging market international equity	6.40%	5%
Private equity and strategic lending	4.61%	8%
U.S. fixed income	0.98%	29%
Real estate	4.73%	7%
Short-term securities	0.00%	1%
		100%

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees as 7.5 percent based on a blending of the three techniques described above.

Discount Rate

7.5 percent per annum, compounded annually

Paragraph 29 of Statement No. 68 provides for an alternative method to be used other than the projection of the pension plan's fiduciary net position based on projected contributions, benefit payments and investment earnings. The current contribution policy requires contributions of the normal cost plus a closed amortization of the unfunded liabilities (not to exceed 30 years from when the unfunded liability was created). In addition, the employer has a documented history of contributing 100 percent of the actuarially determined contribution requirement. The discount rate utilized assumes that employee contributions will be made at the current applicable rate and that contributions from the employer will be made at the actuarially determined contribution rate pursuant to an actuarial valuation in accordance with the pension funding policy of the TCRS Board of Trustees and as required to be paid by state statute. Based on these assumptions and the actuarial methodology adopted, the employer's fiduciary net position is expected to remain positive and to be available to make projected future benefit payments of current active and inactive members and to cover administrative expenses. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Actuarial Valuation Method

All liabilities and normal costs shown in this report are calculated based on the Entry Age Normal method.

Asset Valuation Method

Fair Market Value

Amortization Method for GASB Statement No. 68

Level Dollar

Amortization Period for GASB Statement No. 68

Investment gains or losses are amortized over five years. Experience gains or losses and changes in actuarial assumptions are amortized over the average working lifetime of all participants. Plan amendments are recognized immediately.

Additional Assumptions

Please refer to the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013 for a complete summary of actuarial assumptions.

Selection of Assumptions

The TCRS Board of Trustees selected the assumptions described above based on the review of plan experience in conjunction with an experience study conducted as of June 30, 2012. A complete plan experience study is conducted every four years.

GASB Statement No. 68

This section presents specific information required under Statement No. 68. The information in this report is to satisfy the employer reporting for the pension plan. This section contains the following:

- Summary of Key Actuarial Assumptions for Statement No. 68
- Employees Covered by Benefit Terms at June 30, 2014
- Contributions
- Schedule of Changes in the Net Pension Liability (Asset)
- Sensitivity of Net Pension Liability (Asset) to Changes in the Discount Rate
- Pension Expense (Income) and Deferred Outflows/Inflows of Resources
- Schedule of Changes in Net Pension Liability (Asset) and Related Ratios
- Schedule of Contributions

Fiduciary Net Position is the amount of assets available for benefits in the Pension Plan.

Total Pension Liability is the plan liability determined using assumptions listed in the Summary of Actuarial Assumptions.

Net Pension Liability (Asset) is the difference in the Total Pension Liability and the Fiduciary Net Position.

Summary of Key Actuarial Assumptions for GASB Statement No. 68

Reporting Date	June 30, 2015
Measurement Date	June 30, 2014
Actuarial Valuation Date	June 30, 2014
Actuarial cost method	Entry Age Normal
Amortization method	Level dollar
Asset valuation method	Fair market value
Inflation	3.0 percent
Salary increases	Graded salary ranges from 8.97 to 3.71 percent based on age, including inflation, averaging 4.25 percent
Investment rate of return	7.5 percent, net of investment expense, including inflation
Retirement age	Pattern of retirement determined by experience study
Mortality	Customized table based on actual experience including an adjustment for some anticipated improvement
Cost of living adjustments	2.5 percent, if provided

Employees Covered by Benefit Terms at June 30, 2014

Inactive employees or beneficiaries currently receiving benefits	0
Inactive employees entitled to but not yet receiving benefits	0
Active employees	6
Total	6

A complete summary of the census data utilized in this report is available upon request.

Contributions

June 30, 2014 employer contributions	$2,577
Employer contribution rate	2.00%

Schedule of Changes in Net Pension Liability (Asset)

	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (Asset) (a) - (b)
Balance at June 30, 2013	$0	$1,552	$(1,552)
Service cost	1,061		1,061
Interest	80		80
Differences between expected and actual experience	(20)		(20)
Contributions-employer		2,577	(2,577)
Contributions-employee		6,443	(6,443)
Net investment income		988	(988)
Benefit payments, including refunds of employee contributions	0	0	
Administrative expense		(216)	216
Net changes	1,121	9,792	(8,671)
Balance at June 30, 2014	$1,121	$11,344	$(10,223)

Sensitivity of Net Pension Liability (Asset) to Changes in the Discount Rate

The following represents the net pension liability (asset) calculated using the stated discount rate, as well as what the net pension liability (asset) would be if it were calculated using a discount rate that is 1-percentage-point lower or 1-percentage-point higher than the current rate:

	1% Decrease (6.50%)	Current Rate (7.50%)	1% Increase (8.50%)
Net Pension Liability (Asset)	$(9,659)	$(10,223)	$(10,613)

Pension Expense (Income) and Deferred Outflows/Inflows of Resources

	Pension Expense (Income)
Service cost	$1,061
Interest	80
Contributions-employees	(6,443)
Projected investment income	(447)
Recognition of experience (gain)/loss	(2)
Recognition of investment (gain)/loss	(108)
Administrative expense	216
Pension Expense (Income)	$(5,643)

For the year ended June 30, 2015, the recognized pension expense (income) is $(5,643). At June 30, 2015, deferred outflows of resources and deferred inflows of resources related to pensions are from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$0	$18
Changes of assumptions	0	0
Net difference between projected and actual earnings of pension plan investments	0	433
Total	$0	$451

Amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

Year ended June 30:	Outflows (a)	Inflows (b)	Amount Reported (a) + (b)
2015	$0	$(110)	$(110)
2016	0	(110)	(110)
2017	0	(110)	(110)
2018	0	(110)	(110)
2019	0	(110)	(110)
2020	0	(2)	(2)
Thereafter	0	(12)	(12)

Development of Deferred Outflows and Deferred Inflows

	Original Amount	Date Established	Original Period	Amount Recognized in Expense	Deferred Outflow Amount	Deferred Inflow Amount
Experience (gains) / losses	$(20)	6/30/2015	12	$(2)	$0	$(18)
		Total		$(2)	$0	$(18)
Investment (gains) / losses	$(541)	6/30/2015	5	$(108)	$0	$(433)
		Total		$(108)	$0	$(433)
Assumption changes	$0	6/30/2015	0	$0	$0	$(0)
		Total		$0	$0	$(0)

Schedule of Changes in the Net Pension Liability (Asset) and Related Ratios

for fiscal year ending June 30, 2015 (year shown is measurement date)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total Pension Liability										
Service cost	$1,061									
Interest	80									
Changes of benefit terms	0									
Differences between expected and actual experience	(20)									
Changes of assumptions	0									
Benefit Payments, including refunds of employee contributions	0									
Net Change in Total Pension Liability (Asset)	1,121									
Total Pension Liability (Asset) - beginning	0									
Total Pension Liability (Asset) - ending (a)	$1,121									
Plan Fiduciary Net Position										
Contributions - employer	$2,577									
Contributions - employee	6,443									
Net investment income	988									
Benefit Payments, including refunds of employee contributions	0									
Administrative expenses	(216)									
Other	0									
Net Change in Plan Fiduciary Net Position	$9,792									
Plan Fiduciary Net Position - beginning	1,552									
Plan Fiduciary Net Position - ending (b)	$11,344									
Net Pension Liability (Asset) - ending (a) - (b)	$(10,223)									
Plan Fiduciary Net Position as a % of the Total Pension Liability	1011.95%									
Covered-employee payroll	$128,853									
Net Pension Liability (Asset) as a % of covered-employee payroll	(7.93%)									

Schedule of Contributions

	fiscal year ending June 30									
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Actuarially determined contribution	$2,577									
Contributions in relation to the actuarially determined contribution	2,577									
Contribution deficiency (excess)	$0									
Covered-employee payroll	$128,853									
Contributions as a percentage of covered-employee payroll	2.00%									

Notes to the Schedule Relating to the Actuarially Determined Contribution

Employer contributions for the year ended June 30, 2015 are based on the results of the July 1, 2013 actuarial valuation. Accordingly, governmental employers utilize the following notes to the schedule relating to the Actuarially Determined Contributions when presenting 2015. If 2015 is not presented, then a separate set of notes would apply.

Actuarial cost method	Frozen initial liability
Amortization method	Level dollar, closed (not to exceed 20 years)
Remaining amortization period	0 years
Asset valuation method	10-year smoothed within a 20 percent corridor to market value
Inflation	3.0 percent
Salary increases	Graded salary ranges from 8.97 to 3.71 percent based on age, including inflation, averaging 4.25 percent
Investment rate of return	7.5 percent, net of investment expense, including inflation
Retirement age	Pattern of retirement determined by experience study
Mortality	Customized table based on actual experience including an adjustment for some anticipated improvement
Cost of living adjustments	2.5 percent, if provided

Tennessee Consolidated Retirement System

SHELBY COUNTY UNIFIED SCHOOL DISTRICT

GASB Statement No. 68

Actuarial Report
Reporting Date: June 30, 2015

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Accounting Governance Background

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Data

The calculations shown in this report have been prepared using employee data (including covered-employee payroll) and plan documentation furnished by the Tennessee Consolidated Retirement System as of June 30, 2014. Plan asset information was furnished by the Tennessee Consolidated Retirement System for the twelve month period ending June 30, 2014. While we have not audited the data, we have reviewed it for reasonableness and internal consistency. We have made reasonable assumptions with regard to any incomplete records, and to the best of our knowledge, there are no material limitations to the data provided. A complete summary of the census data utilized in this report is available upon request.

Subsequent Events

We are unaware of any subsequent event after June 30, 2015 which would have a material effect on the results presented in this report.

Assumptions, Methods, and Procedures

The results presented in this report comply with the assumptions, methods, and procedures under Statement No. 68. The results are based on a June 30, 2014 actuarial valuation date, a measurement date of June 30, 2014 and a reporting date of June 30, 2015. All assumptions are selected by the TCRS Board of Trustees. Statement No. 68 mandates the use of the Entry Age Normal actuarial funding method.

Changes in Plan Provisions, Actuarial Assumptions, and Actuarial Methods

No changes were made to the plan provisions, actuarial assumptions and methods at the June 30, 2014 actuarial valuation date compared to the most recent funding valuation completed as of July 1, 2013.

Summaries of the plan provisions and actuarial assumptions can be found in the Basis for Valuation section of this report and in the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013.

Professional Qualifications

This report has been prepared under the supervision of Justin C. Thacker, a member of the American Academy of Actuaries, a Fellow of the Society of Actuaries, and a consulting actuary with Bryan, Pendleton, Swats and McAllister, LLC, who has met the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions herein. To the best of our knowledge this report has been prepared in accordance with generally accepted actuarial standards and our understanding of Government Accounting Standards Board Statement No. 68, including the overall appropriateness of the analysis, assumptions, and results and conforms to appropriate Standards of Practice as promulgated from time to time by the Actuarial Standards Board, which standards form the basis for the actuarial report. We are not aware of any direct or material indirect financial interest or relationship that could create, or appear to create, a conflict of interest that would impair the objectivity of our work. The undersigned are available to provide supplemental information or explanation.

Justin C. Thacker
Fellow, Society of Actuaries
Enrollment No. 14-6078
Phone 615.665.5387

October 15, 2015
Date

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Fellow, Society of Actuaries
Enrollment No. 14-6745
Phone 615.665.5305

October 15, 2015
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Summary of Plan Provisions

The actuarial valuation includes all benefits provided by the Tennessee Consolidated Retirement System to the current active and inactive plan members. Benefit provisions include retirement, death and disability benefits. If applicable, post-retirement cost of living adjustments are included. Please refer to the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013 for a complete summary of plan provisions.

Summary of Actuarial Assumptions and Methods

Investment Rate of Return

7.5 percent per annum, compounded annually

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees in conjunction with the June 30, 2012 actuarial experience study by considering the following three techniques: (1) the 25-year historical return of the TCRS at June 30, 2012, (2) the historical market returns of asset classes from 1926 to 2012 using the TCRS investment policy asset allocation, and (3) capital market projections that were utilized as a building-block method in which best-estimate ranges of expected future real rate of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. Four sources of capital market projections were blended and utilized in the third technique. The blended capital market projection established the long-term expected rate of return by weighting the expected future real rate of return by the target asset allocation percentage and by adding inflation of 3 percent. The target allocation and best estimates of arithmetic real rates of return for each major asset class are summarized in the following table:

Asset Class	Long-Term Expected Real Rate of Return	Target Allocations
U.S. equity	6.46%	33%
Developed market international equity	6.26%	17%
Emerging market international equity	6.40%	5%
Private equity and strategic lending	4.61%	8%
U.S. fixed income	0.98%	29%
Real estate	4.73%	7%
Short-term securities	0.00%	1%
		100%

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees as 7.5 percent based on a blending of the three techniques described above.

Discount Rate

7.5 percent per annum, compounded annually

Paragraph 29 of Statement No. 68 provides for an alternative method to be used other than the projection of the pension plan's fiduciary net position based on projected contributions, benefit payments and investment earnings. The current contribution policy requires contributions of the normal cost plus a closed amortization of the unfunded liabilities (not to exceed 30 years from when the unfunded liability was created). In addition, the employer has a documented history of contributing 100 percent of the actuarially determined contribution requirement. The discount rate utilized assumes that employee contributions will be made at the current applicable rate and that contributions from the employer will be made at the actuarially determined contribution rate pursuant to an actuarial valuation in accordance with the pension funding policy of the TCRS Board of Trustees and as required to be paid by state statute. Based on these assumptions and the actuarial methodology adopted, the employer's fiduciary net position is expected to remain positive and to be available to make projected future benefit payments of current active and inactive members and to cover administrative expenses. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Actuarial Valuation Method

All liabilities and normal costs shown in this report are calculated based on the Entry Age Normal method.

Asset Valuation Method

Fair Market Value

Amortization Method for GASB Statement No. 68

Level Dollar

Amortization Period for GASB Statement No. 68

Investment gains or losses are amortized over five years. Experience gains or losses and changes in actuarial assumptions are amortized over the average working lifetime of all participants. Plan amendments are recognized immediately.

Additional Assumptions

Please refer to the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013 for a complete summary of actuarial assumptions.

Selection of Assumptions

The TCRS Board of Trustees selected the assumptions described above based on the review of plan experience in conjunction with an experience study conducted as of June 30, 2012. A complete plan experience study is conducted every four years.

GASB Statement No. 68

This section presents specific information required under Statement No. 68. The information in this report is to satisfy the employer reporting for the pension plan. This section contains the following:

- Summary of Key Actuarial Assumptions for Statement No. 68
- Employees Covered by Benefit Terms at June 30, 2014
- Contributions
- Schedule of Changes in the Net Pension Liability (Asset)
- Sensitivity of Net Pension Liability (Asset) to Changes in the Discount Rate
- Pension Expense (Income) and Deferred Outflows/Inflows of Resources
- Schedule of Changes in Net Pension Liability (Asset) and Related Ratios
- Schedule of Contributions

Fiduciary Net Position is the amount of assets available for benefits in the Pension Plan.

Total Pension Liability is the plan liability determined using assumptions listed in the Summary of Actuarial Assumptions.

Net Pension Liability (Asset) is the difference in the Total Pension Liability and the Fiduciary Net Position.

Summary of Key Actuarial Assumptions for GASB Statement No. 68

Reporting Date	June 30, 2015
Measurement Date	June 30, 2014
Actuarial Valuation Date	June 30, 2014
Actuarial cost method	Entry Age Normal
Amortization method	Level dollar
Asset valuation method	Fair market value
Inflation	3.0 percent
Salary increases	Graded salary ranges from 8.97 to 3.71 percent based on age, including inflation, averaging 4.25 percent
Investment rate of return	7.5 percent, net of investment expense, including inflation
Retirement age	Pattern of retirement determined by experience study
Mortality	Customized table based on actual experience including an adjustment for some anticipated improvement
Cost of living adjustments	2.5 percent, if provided

Employees Covered by Benefit Terms at June 30, 2014

Inactive employees or beneficiaries currently receiving benefits		3,769
Inactive employees entitled to but not yet receiving benefits		6,481
Active employees		4,412
	Total	14,662

A complete summary of the census data utilized in this report is available upon request.

Contributions

June 30, 2014 employer contributions	$15,158,220
Employer contribution rate	8.99%

Schedule of Changes in Net Pension Liability (Asset)

	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (Asset) (a) - (b)
Balance at June 30, 2013	$672,056,424	$631,944,601	$40,111,823
Service cost	17,513,767		17,513,767
Interest	49,993,005		49,993,005
Differences between expected and actual experience	(40,202,560)		(40,202,560)
Contributions-employer		15,158,220	(15,158,220)
Contributions-employee		8,482,928	(8,482,928)
Net investment income		103,013,130	(103,013,130)
Benefit payments, including refunds of employee contributions	(45,993,591)	(45,993,591)	
Administrative expense		(214,862)	214,862
Net changes	(18,689,379)	80,445,825	(99,135,204)
Balance at June 30, 2014	$653,367,045	$712,390,426	$(59,023,381)

Sensitivity of Net Pension Liability (Asset) to Changes in the Discount Rate

The following represents the net pension liability (asset) calculated using the stated discount rate, as well as what the net pension liability (asset) would be if it were calculated using a discount rate that is 1-percentage-point lower or 1-percentage-point higher than the current rate:

	1% Decrease (6.50%)	Current Rate (7.50%)	1% Increase (8.50%)
Net Pension Liability (Asset)	$20,386,006	$(59,023,381)	$(125,427,665)

Pension Expense (Income) and Deferred Outflows/Inflows of Resources

	Pension Expense (Income)
Service cost	$17,513,767
Interest	49,993,005
Contributions-employees	(8,482,928)
Projected investment income	(46,549,571)
Recognition of experience (gain)/loss	(6,700,427)
Recognition of investment (gain)/loss	(11,292,712)
Administrative expense	214,862
Pension Expense (Income)	$(5,304,004)

For the year ended June 30, 2015, the recognized pension expense (income) is $(5,304,004). At June 30, 2015, deferred outflows of resources and deferred inflows of resources related to pensions are from the following sources:

	Deferred Outflows of Resources	**Deferred Inflows of Resources**
Differences between expected and actual experience	$0	$33,502,133
Changes of assumptions	0	0
Net difference between projected and actual earnings of pension plan investments	0	45,170,847
Total	$0	$78,672,980

Amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

Year ended June 30:	Outflows (a)	Inflows (b)	Amount Reported (a) + (b)
2015	$0	$(17,993,139)	$(17,993,139)
2016	0	(17,993,139)	(17,993,139)
2017	0	(17,993,139)	(17,993,139)
2018	0	(17,993,139)	(17,993,139)
2019	0	(17,993,139)	(17,993,139)
2020	0	(6,700,427)	(6,700,427)
Thereafter	0	0	0

Development of Deferred Outflows and Deferred Inflows

	Original Amount	Date Established	Original Period	Amount Recognized in Expense	Deferred Outflow Amount	Deferred Inflow Amount
Experience (gains) / losses	$(40,202,560)	6/30/2015	6	$(6,700,427)	$0	$(33,502,133)
		Total		$(6,700,427)	$0	$(33,502,133)
Investment (gains) / losses	$(56,463,559)	6/30/2015	5	$(11,292,712)	$0	$(45,170,847)
		Total		$(11,292,712)	$0	$(45,170,847)
Assumption changes	$0	6/30/2015	0	$0	$0	$(0)
		Total		$0	$0	$(0)

Schedule of Changes in the Net Pension Liability (Asset) and Related Ratios

for fiscal year ending June 30, 2015 (year shown is measurement date)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total Pension Liability										
Service cost	$17,513,767									
Interest	49,993,005									
Changes of benefit terms	0									
Differences between expected and actual experience	(40,202,560)									
Changes of assumptions	0									
Benefit Payments, including refunds of employee contributions	(45,993,591)									
Net Change in Total Pension Liability (Asset)	(18,689,379)									
Total Pension Liability (Asset) - beginning	672,056,424									
Total Pension Liability (Asset) - ending (a)	$653,367,045									
Plan Fiduciary Net Position										
Contributions - employer	$15,158,220									
Contributions - employee	8,482,928									
Net investment income	103,013,130									
Benefit Payments, including refunds of employee contributions	(45,993,591)									
Administrative expenses	(214,862)									
Other	0									
Net Change in Plan Fiduciary Net Position	$80,445,825									
Plan Fiduciary Net Position - beginning	631,944,601									
Plan Fiduciary Net Position - ending (b)	$712,390,426									
Net Pension Liability (Asset) - ending (a) - (b)	$(59,023,381)									
Plan Fiduciary Net Position as a % of the Total Pension Liability	109.03%									
Covered-employee payroll	$168,688,091									
Net Pension Liability (Asset) as a % of covered-employee payroll	(34.99%)									

Schedule of Contributions

	fiscal year ending June 30									
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Actuarially determined contribution	$15,158,220									
Contributions in relation to the actuarially determined contribution	15,158,220									
Contribution deficiency (excess)	$0									
Covered-employee payroll	$168,688,091									
Contributions as a percentage of covered-employee payroll	8.99%									

Notes to the Schedule Relating to the Actuarially Determined Contribution

Employer contributions for the year ended June 30, 2015 are based on the results of the July 1, 2013 actuarial valuation. Accordingly, governmental employers utilize the following notes to the schedule relating to the Actuarially Determined Contributions when presenting 2015. If 2015 is not presented, then a separate set of notes would apply.

Actuarial cost method	Frozen initial liability
Amortization method	Level dollar, closed (not to exceed 20 years)
Remaining amortization period	3 years
Asset valuation method	10-year smoothed within a 20 percent corridor to market value
Inflation	3.0 percent
Salary increases	Graded salary ranges from 8.97 to 3.71 percent based on age, including inflation, averaging 4.25 percent
Investment rate of return	7.5 percent, net of investment expense, including inflation
Retirement age	Pattern of retirement determined by experience study
Mortality	Customized table based on actual experience including an adjustment for some anticipated improvement
Cost of living adjustments	2.5 percent, if provided

BPS&M
Bryan, Pendleton, Swats & McAllister, LLC
A Wells Fargo Company

Tennessee Consolidated Retirement System

MARTIN

GASB Statement No. 68

Actuarial Report
Reporting Date: June 30, 2015

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Accounting Governance Background

Statement No. 27 of the Governmental Accounting Standards Board was amended by Statement No. 68 of the Governmental Accounting Standards Board. Statement No. 68 became effective for employer financial statements for the fiscal year beginning after June 15, 2014. Statement No. 68 establishes financial reporting standards for state and local government employers with pension plans that are administered through trusts or equivalent arrangements. The objective of this statement is to improve the usefulness of the information included in employer financial statements.

Purpose and Use

This report has been prepared exclusively for the Tennessee Consolidated Retirement System. Actuarial computations under Statement No. 68 are for purposes of fulfilling employer governmental accounting requirements, and may not be appropriate for other purposes. The calculations reported herein have been made on a basis consistent with our understanding of the statement. Bryan, Pendleton, Swats & McAllister, LLC is not responsible for consequences resulting from the use of any part of this report without prior authorization or approval. This report provides actuarial advice and does not constitute legal, accounting, tax or investment advice. Determinations for other purposes, such as funding, bond ratings, or judging benefit security, may be significantly different from the results shown in this report.

Actuarial findings in this report are based on actuarial assumptions which reflect expected plan experience. Although the deviation of the actual future plan experience and the expected experience inherently creates some uncertainty with the results, in our opinion the actuarial assumptions reasonably reflect the expected future experience of the plan. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan’s funded status); and changes in plan provisions or applicable law. All of these factors can cause volatility in the Net Pension Liability (Asset) over time.

Data

The calculations shown in this report have been prepared using employee data (including covered-employee payroll) and plan documentation furnished by the Tennessee Consolidated Retirement System as of June 30, 2014. Plan asset information was furnished by the Tennessee Consolidated Retirement System for the twelve month period ending June 30, 2014. While we have not audited the data, we have reviewed it for reasonableness and internal consistency. We have made reasonable assumptions with regard to any incomplete records, and to the best of our knowledge, there are no material limitations to the data provided. A complete summary of the census data utilized in this report is available upon request.

Subsequent Events

We are unaware of any subsequent event after June 30, 2015 which would have a material effect on the results presented in this report.

Assumptions, Methods, and Procedures

The results presented in this report comply with the assumptions, methods, and procedures under Statement No. 68. The results are based on a June 30, 2014 actuarial valuation date, a measurement date of June 30, 2014 and a reporting date of June 30, 2015. All assumptions are selected by the TCRS Board of Trustees. Statement No. 68 mandates the use of the Entry Age Normal actuarial funding method.

Changes in Plan Provisions, Actuarial Assumptions, and Actuarial Methods

No changes were made to the plan provisions, actuarial assumptions and methods at the June 30, 2014 actuarial valuation date compared to the most recent funding valuation completed as of July 1, 2013.

Summaries of the plan provisions and actuarial assumptions can be found in the Basis for Valuation section of this report and in the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013.

Professional Qualifications

This report has been prepared under the supervision of Justin C. Thacker, a member of the American Academy of Actuaries, a Fellow of the Society of Actuaries, and a consulting actuary with Bryan, Pendleton, Swats and McAllister, LLC, who has met the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions herein. To the best of our knowledge this report has been prepared in accordance with generally accepted actuarial standards and our understanding of Government Accounting Standards Board Statement No. 68, including the overall appropriateness of the analysis, assumptions, and results and conforms to appropriate Standards of Practice as promulgated from time to time by the Actuarial Standards Board, which standards form the basis for the actuarial report. We are not aware of any direct or material indirect financial interest or relationship that could create, or appear to create, a conflict of interest that would impair the objectivity of our work. The undersigned are available to provide supplemental information or explanation.

Justin Thacker

October 15, 2015

Justin C. Thacker
Fellow, Society of Actuaries
Enrollment No. 14-6078
Phone 615.665.5387

Date

Tim Lavender

October 15, 2015

Tim C. Lavender
Fellow, Society of Actuaries
Enrollment No. 14-6745
Phone 615.665.5305

Date

Summary of Plan Provisions

The actuarial valuation includes all benefits provided by the Tennessee Consolidated Retirement System to the current active and inactive plan members. Benefit provisions include retirement, death and disability benefits. If applicable, post-retirement cost of living adjustments are included. Please refer to the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013 for a complete summary of plan provisions.

Summary of Actuarial Assumptions and Methods

Investment Rate of Return

7.5 percent per annum, compounded annually

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees in conjunction with the June 30, 2012 actuarial experience study by considering the following three techniques: (1) the 25-year historical return of the TCRS at June 30, 2012, (2) the historical market returns of asset classes from 1926 to 2012 using the TCRS investment policy asset allocation, and (3) capital market projections that were utilized as a building-block method in which best-estimate ranges of expected future real rate of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. Four sources of capital market projections were blended and utilized in the third technique. The blended capital market projection established the long-term expected rate of return by weighting the expected future real rate of return by the target asset allocation percentage and by adding inflation of 3 percent. The target allocation and best estimates of arithmetic real rates of return for each major asset class are summarized in the following table:

Asset Class	**Long-Term Expected Real Rate of Return**	**Target Allocations**
U.S. equity	6.46%	33%
Developed market international equity	6.26%	17%
Emerging market international equity	6.40%	5%
Private equity and strategic lending	4.61%	8%
U.S. fixed income	0.98%	29%
Real estate	4.73%	7%
Short-term securities	0.00%	1%
		100%

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees as 7.5 percent based on a blending of the three techniques described above.

Discount Rate

7.5 percent per annum, compounded annually

Paragraph 29 of Statement No. 68 provides for an alternative method to be used other than the projection of the pension plan's fiduciary net position based on projected contributions, benefit payments and investment earnings. The current contribution policy requires contributions of the normal cost plus a closed amortization of the unfunded liabilities (not to exceed 30 years from when the unfunded liability was created). In addition, the employer has a documented history of contributing 100 percent of the actuarially determined contribution requirement. The discount rate utilized assumes that employee contributions will be made at the current applicable rate and that contributions from the employer will be made at the actuarially determined contribution rate pursuant to an actuarial valuation in accordance with the pension funding policy of the TCRS Board of Trustees and as required to be paid by state statute. Based on these assumptions and the actuarial methodology adopted, the employer's fiduciary net position is expected to remain positive and to be available to make projected future benefit payments of current active and inactive members and to cover administrative expenses. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Actuarial Valuation Method

All liabilities and normal costs shown in this report are calculated based on the Entry Age Normal method.

Asset Valuation Method

Fair Market Value

Amortization Method for GASB Statement No. 68

Level Dollar

Amortization Period for GASB Statement No. 68

Investment gains or losses are amortized over five years. Experience gains or losses and changes in actuarial assumptions are amortized over the average working lifetime of all participants. Plan amendments are recognized immediately.

Additional Assumptions

Please refer to the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013 for a complete summary of actuarial assumptions.

Selection of Assumptions

The TCRS Board of Trustees selected the assumptions described above based on the review of plan experience in conjunction with an experience study conducted as of June 30, 2012. A complete plan experience study is conducted every four years.

GASB Statement No. 68

This section presents specific information required under Statement No. 68. The information in this report is to satisfy the employer reporting for the pension plan. This section contains the following:

- Summary of Key Actuarial Assumptions for Statement No. 68
- Employees Covered by Benefit Terms at June 30, 2014
- Contributions
- Schedule of Changes in the Net Pension Liability (Asset)
- Sensitivity of Net Pension Liability (Asset) to Changes in the Discount Rate
- Pension Expense (Income) and Deferred Outflows/Inflows of Resources
- Schedule of Changes in Net Pension Liability (Asset) and Related Ratios
- Schedule of Contributions

Fiduciary Net Position is the amount of assets available for benefits in the Pension Plan.

Total Pension Liability is the plan liability determined using assumptions listed in the Summary of Actuarial Assumptions.

Net Pension Liability (Asset) is the difference in the Total Pension Liability and the Fiduciary Net Position.

Summary of Key Actuarial Assumptions for GASB Statement No. 68

Reporting Date	June 30, 2015
Measurement Date	June 30, 2014
Actuarial Valuation Date	June 30, 2014
Actuarial cost method	Entry Age Normal
Amortization method	Level dollar
Asset valuation method	Fair market value
Inflation	3.0 percent
Salary increases	Graded salary ranges from 8.97 to 3.71 percent based on age, including inflation, averaging 4.25 percent
Investment rate of return	7.5 percent, net of investment expense, including inflation
Retirement age	Pattern of retirement determined by experience study
Mortality	Customized table based on actual experience including an adjustment for some anticipated improvement
Cost of living adjustments	2.5 percent, if provided

Employees Covered by Benefit Terms at June 30, 2014

Inactive employees or beneficiaries currently receiving benefits	56
Inactive employees entitled to but not yet receiving benefits	75
Active employees	129
Total	260

A complete summary of the census data utilized in this report is available upon request.

Contributions

June 30, 2014 employer contributions	$452,381
Employer contribution rate	9.62%

Schedule of Changes in Net Pension Liability (Asset)

	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (Asset) (a) - (b)
Balance at June 30, 2013	$12,879,352	$10,407,665	$2,471,687
Service cost	357,581		357,581
Interest	973,893		973,893
Differences between expected and actual experience	(216,808)		(216,808)
Contributions-employer		452,381	(452,381)
Contributions-employee		235,170	(235,170)
Net investment income		1,744,609	(1,744,609)
Benefit payments, including refunds of employee contributions	(503,389)	(503,389)	
Administrative expense		(5,203)	5,203
Net changes	611,277	1,923,568	(1,312,291)
Balance at June 30, 2014	$13,490,629	$12,331,233	$1,159,396

Sensitivity of Net Pension Liability (Asset) to Changes in the Discount Rate

The following represents the net pension liability (asset) calculated using the stated discount rate, as well as what the net pension liability (asset) would be if it were calculated using a discount rate that is 1-percentage-point lower or 1-percentage-point higher than the current rate:

	1% Decrease (6.50%)	Current Rate (7.50%)	1% Increase (8.50%)
Net Pension Liability (Asset)	$2,847,854	$1,159,396	$(260,299)

Pension Expense (Income) and Deferred Outflows/Inflows of Resources

	Pension Expense (Income)
Service cost	$357,581
Interest	973,893
Contributions-employees	(235,170)
Projected investment income	(787,286)
Recognition of experience (gain)/loss	(36,135)
Recognition of investment (gain)/loss	(191,465)
Administrative expense	5,203
Pension Expense (Income)	$86,621

For the year ended June 30, 2015, the recognized pension expense (income) is $86,621. At June 30, 2015, deferred outflows of resources and deferred inflows of resources related to pensions are from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$0	$180,673
Changes of assumptions	0	0
Net difference between projected and actual earnings of pension plan investments	0	765,858
Total	$0	$946,531

Amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

Year ended June 30:	Outflows (a)	Inflows (b)	Amount Reported (a) + (b)
2015	$0	$(227,600)	$(227,600)
2016	0	(227,600)	(227,600)
2017	0	(227,600)	(227,600)
2018	0	(227,600)	(227,600)
2019	0	(227,600)	(227,600)
2020	0	(36,135)	(36,135)
Thereafter	0	0	0

Development of Deferred Outflows and Deferred Inflows

	Original Amount	Date Established	Original Period	Amount Recognized in Expense	Deferred Outflow Amount	Deferred Inflow Amount
Experience (gains) / losses	$(216,808)	6/30/2015	6	$(36,135)	$0	$(180,673)
		Total		$(36,135)	$0	$(180,673)
Investment (gains) / losses	$(957,323)	6/30/2015	5	$(191,465)	$0	$(765,858)
		Total		$(191,465)	$0	$(765,858)
Assumption changes	$0	6/30/2015	0	$0	$0	$(0)
		Total		$0	$0	$(0)

Schedule of Changes in the Net Pension Liability (Asset) and Related Ratios

for fiscal year ending June 30, 2015 (year shown is measurement date)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total Pension Liability										
Service cost	$357,581									
Interest	973,893									
Changes of benefit terms	0									
Differences between expected and actual experience	(216,808)									
Changes of assumptions	0									
Benefit Payments, including refunds of employee contributions	(503,389)									
Net Change in Total Pension Liability (Asset)	611,277									
Total Pension Liability (Asset) - beginning	12,879,352									
Total Pension Liability (Asset) - ending (a)	$13,490,629									
Plan Fiduciary Net Position										
Contributions - employer	$452,381									
Contributions - employee	235,170									
Net investment income	1,744,609									
Benefit Payments, including refunds of employee contributions	(503,389)									
Administrative expenses	(5,203)									
Other	0									
Net Change in Plan Fiduciary Net Position	$1,923,568									
Plan Fiduciary Net Position - beginning	10,407,665									
Plan Fiduciary Net Position - ending (b)	$12,331,233									
Net Pension Liability (Asset) - ending (a) - (b)	$1,159,396									
Plan Fiduciary Net Position as a % of the Total Pension Liability	91.41%									
Covered-employee payroll	$4,703,373									
Net Pension Liability (Asset) as a % of covered-employee payroll	24.65%									

Schedule of Contributions

	fiscal year ending June 30									
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Actuarially determined contribution	$452,381									
Contributions in relation to the actuarially determined contribution	452,381									
Contribution deficiency (excess)	$0									
Covered-employee payroll	$4,703,373									
Contributions as a percentage of covered-employee payroll	9.62%									

Notes to the Schedule Relating to the Actuarially Determined Contribution

Employer contributions for the year ended June 30, 2015 are based on the results of the July 1, 2013 actuarial valuation. Accordingly, governmental employers utilize the following notes to the schedule relating to the Actuarially Determined Contributions when presenting 2015. If 2015 is not presented, then a separate set of notes would apply.

Actuarial cost method	Frozen initial liability
Amortization method	Level dollar, closed (not to exceed 20 years)
Remaining amortization period	10 years
Asset valuation method	10-year smoothed within a 20 percent corridor to market value
Inflation	3.0 percent
Salary increases	Graded salary ranges from 8.97 to 3.71 percent based on age, including inflation, averaging 4.25 percent
Investment rate of return	7.5 percent, net of investment expense, including inflation
Retirement age	Pattern of retirement determined by experience study
Mortality	Customized table based on actual experience including an adjustment for some anticipated improvement
Cost of living adjustments	2.5 percent, if provided

Bryan, Pendleton, Swats & McAllister, LLC
A Wells Fargo Company

Tennessee Consolidated Retirement System

CLAIBORNE CO COURTHOUSE

GASB Statement No. 68

Actuarial Report
Reporting Date: June 30, 2015

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Accounting Governance Background

Statement No. 27 of the Governmental Accounting Standards Board was amended by Statement No. 68 of the Governmental Accounting Standards Board. Statement No. 68 became effective for employer financial statements for the fiscal year beginning after June 15, 2014. Statement No. 68 establishes financial reporting standards for state and local government employers with pension plans that are administered through trusts or equivalent arrangements. The objective of this statement is to improve the usefulness of the information included in employer financial statements.

Purpose and Use

This report has been prepared exclusively for the Tennessee Consolidated Retirement System. Actuarial computations under Statement No. 68 are for purposes of fulfilling employer governmental accounting requirements, and may not be appropriate for other purposes. The calculations reported herein have been made on a basis consistent with our understanding of the statement. Bryan, Pendleton, Swats & McAllister, LLC is not responsible for consequences resulting from the use of any part of this report without prior authorization or approval. This report provides actuarial advice and does not constitute legal, accounting, tax or investment advice. Determinations for other purposes, such as funding, bond ratings, or judging benefit security, may be significantly different from the results shown in this report.

Actuarial findings in this report are based on actuarial assumptions which reflect expected plan experience. Although the deviation of the actual future plan experience and the expected experience inherently creates some uncertainty with the results, in our opinion the actuarial assumptions reasonably reflect the expected future experience of the plan. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan’s funded status); and changes in plan provisions or applicable law. All of these factors can cause volatility in the Net Pension Liability (Asset) over time.

Data

The calculations shown in this report have been prepared using employee data (including covered-employee payroll) and plan documentation furnished by the Tennessee Consolidated Retirement System as of June 30, 2014. Plan asset information was furnished by the Tennessee Consolidated Retirement System for the twelve month period ending June 30, 2014. While we have not audited the data, we have reviewed it for reasonableness and internal consistency. We have made reasonable assumptions with regard to any incomplete records, and to the best of our knowledge, there are no material limitations to the data provided. A complete summary of the census data utilized in this report is available upon request.

Subsequent Events

We are unaware of any subsequent event after June 30, 2015 which would have a material effect on the results presented in this report.

Assumptions, Methods, and Procedures

The results presented in this report comply with the assumptions, methods, and procedures under Statement No. 68. The results are based on a June 30, 2014 actuarial valuation date, a measurement date of June 30, 2014 and a reporting date of June 30, 2015. All assumptions are selected by the TCRS Board of Trustees. Statement No. 68 mandates the use of the Entry Age Normal actuarial funding method.

Changes in Plan Provisions, Actuarial Assumptions, and Actuarial Methods

No changes were made to the plan provisions, actuarial assumptions and methods at the June 30, 2014 actuarial valuation date compared to the most recent funding valuation completed as of July 1, 2013.

Summaries of the plan provisions and actuarial assumptions can be found in the Basis for Valuation section of this report and in the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013.

Professional Qualifications

This report has been prepared under the supervision of Justin C. Thacker, a member of the American Academy of Actuaries, a Fellow of the Society of Actuaries, and a consulting actuary with Bryan, Pendleton, Swats and McAllister, LLC, who has met the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions herein. To the best of our knowledge this report has been prepared in accordance with generally accepted actuarial standards and our understanding of Government Accounting Standards Board Statement No. 68, including the overall appropriateness of the analysis, assumptions, and results and conforms to appropriate Standards of Practice as promulgated from time to time by the Actuarial Standards Board, which standards form the basis for the actuarial report. We are not aware of any direct or material indirect financial interest or relationship that could create, or appear to create, a conflict of interest that would impair the objectivity of our work. The undersigned are available to provide supplemental information or explanation.

Justin Thacker

Justin C. Thacker
Fellow, Society of Actuaries
Enrollment No. 14-6078
Phone 615.665.5387

October 15, 2015
Date

Tim Lavender

Tim C. Lavender
Fellow, Society of Actuaries
Enrollment No. 14-6745
Phone 615.665.5305

October 15, 2015
Date

Summary of Plan Provisions

The actuarial valuation includes all benefits provided by the Tennessee Consolidated Retirement System to the current active and inactive plan members. Benefit provisions include retirement, death and disability benefits. If applicable, post-retirement cost of living adjustments are included. Please refer to the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013 for a complete summary of plan provisions.

Summary of Actuarial Assumptions and Methods

Investment Rate of Return

7.5 percent per annum, compounded annually

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees in conjunction with the June 30, 2012 actuarial experience study by considering the following three techniques: (1) the 25-year historical return of the TCRS at June 30, 2012, (2) the historical market returns of asset classes from 1926 to 2012 using the TCRS investment policy asset allocation, and (3) capital market projections that were utilized as a building-block method in which best-estimate ranges of expected future real rate of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. Four sources of capital market projections were blended and utilized in the third technique. The blended capital market projection established the long-term expected rate of return by weighting the expected future real rate of return by the target asset allocation percentage and by adding inflation of 3 percent. The target allocation and best estimates of arithmetic real rates of return for each major asset class are summarized in the following table:

Asset Class	**Long-Term Expected Real Rate of Return**	**Target Allocations**
U.S. equity	6.46%	33%
Developed market international equity	6.26%	17%
Emerging market international equity	6.40%	5%
Private equity and strategic lending	4.61%	8%
U.S. fixed income	0.98%	29%
Real estate	4.73%	7%
Short-term securities	0.00%	1%
		100%

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees as 7.5 percent based on a blending of the three techniques described above.

Discount Rate

7.5 percent per annum, compounded annually

Paragraph 29 of Statement No. 68 provides for an alternative method to be used other than the projection of the pension plan's fiduciary net position based on projected contributions, benefit payments and investment earnings. The current contribution policy requires contributions of the normal cost plus a closed amortization of the unfunded liabilities (not to exceed 30 years from when the unfunded liability was created). In addition, the employer has a documented history of contributing 100 percent of the actuarially determined contribution requirement. The discount rate utilized assumes that employee contributions will be made at the current applicable rate and that contributions from the employer will be made at the actuarially determined contribution rate pursuant to an actuarial valuation in accordance with the pension funding policy of the TCRS Board of Trustees and as required to be paid by state statute. Based on these assumptions and the actuarial methodology adopted, the employer's fiduciary net position is expected to remain positive and to be available to make projected future benefit payments of current active and inactive members and to cover administrative expenses. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Actuarial Valuation Method

All liabilities and normal costs shown in this report are calculated based on the Entry Age Normal method.

Asset Valuation Method

Fair Market Value

Amortization Method for GASB Statement No. 68

Level Dollar

Amortization Period for GASB Statement No. 68

Investment gains or losses are amortized over five years. Experience gains or losses and changes in actuarial assumptions are amortized over the average working lifetime of all participants. Plan amendments are recognized immediately.

Additional Assumptions

Please refer to the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013 for a complete summary of actuarial assumptions.

Selection of Assumptions

The TCRS Board of Trustees selected the assumptions described above based on the review of plan experience in conjunction with an experience study conducted as of June 30, 2012. A complete plan experience study is conducted every four years.

GASB Statement No. 68

This section presents specific information required under Statement No. 68. The information in this report is to satisfy the employer reporting for the pension plan. This section contains the following:

- Summary of Key Actuarial Assumptions for Statement No. 68
- Employees Covered by Benefit Terms at June 30, 2014
- Contributions
- Schedule of Changes in the Net Pension Liability (Asset)
- Sensitivity of Net Pension Liability (Asset) to Changes in the Discount Rate
- Pension Expense (Income) and Deferred Outflows/Inflows of Resources
- Schedule of Changes in Net Pension Liability (Asset) and Related Ratios
- Schedule of Contributions

Fiduciary Net Position is the amount of assets available for benefits in the Pension Plan.

Total Pension Liability is the plan liability determined using assumptions listed in the Summary of Actuarial Assumptions.

Net Pension Liability (Asset) is the difference in the Total Pension Liability and the Fiduciary Net Position.

Summary of Key Actuarial Assumptions for GASB Statement No. 68

Reporting Date	June 30, 2015
Measurement Date	June 30, 2014
Actuarial Valuation Date	June 30, 2014
Actuarial cost method	Entry Age Normal
Amortization method	Level dollar
Asset valuation method	Fair market value
Inflation	3.0 percent
Salary increases	Graded salary ranges from 8.97 to 3.71 percent based on age, including inflation, averaging 4.25 percent
Investment rate of return	7.5 percent, net of investment expense, including inflation
Retirement age	Pattern of retirement determined by experience study
Mortality	Customized table based on actual experience including an adjustment for some anticipated improvement
Cost of living adjustments	2.5 percent, if provided

Employees Covered by Benefit Terms at June 30, 2014

Inactive employees or beneficiaries currently receiving benefits		405
Inactive employees entitled to but not yet receiving benefits		752
Active employees		459
	Total	1,616

A complete summary of the census data utilized in this report is available upon request.

Contributions

June 30, 2014 employer contributions	$913,895
Employer contribution rate	5.41%

Schedule of Changes in Net Pension Liability (Asset)

	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (Asset) (a) - (b)
Balance at June 30, 2013	$45,138,702	$42,174,919	$2,963,783
Service cost	1,439,339		1,439,339
Interest	3,355,422		3,355,422
Differences between expected and actual experience	(1,736,936)		(1,736,936)
Contributions-employer		913,895	(913,895)
Contributions-employee		857,440	(857,440)
Net investment income		6,829,354	(6,829,354)
Benefit payments, including refunds of employee contributions	(3,678,157)	(3,678,157)	
Administrative expense		(25,669)	25,669
Net changes	(620,332)	4,896,863	(5,517,195)
Balance at June 30, 2014	$44,518,370	$47,071,782	$(2,553,412)

Sensitivity of Net Pension Liability (Asset) to Changes in the Discount Rate

The following represents the net pension liability (asset) calculated using the stated discount rate, as well as what the net pension liability (asset) would be if it were calculated using a discount rate that is 1-percentage-point lower or 1-percentage-point higher than the current rate:

	1% Decrease (6.50%)	Current Rate (7.50%)	1% Increase (8.50%)
Net Pension Liability (Asset)	$2,063,168	$(2,553,412)	$(6,329,686)

Pension Expense (Income) and Deferred Outflows/Inflows of Resources

	Pension Expense (Income)
Service cost	$1,439,339
Interest	3,355,422
Contributions-employees	(857,440)
Projected investment income	(3,090,651)
Recognition of experience (gain)/loss	(434,234)
Recognition of investment (gain)/loss	(747,741)
Administrative expense	25,669
Pension Expense (Income)	$(309,636)

For the year ended June 30, 2015, the recognized pension expense (income) is $(309,636). At June 30, 2015, deferred outflows of resources and deferred inflows of resources related to pensions are from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$0	$1,302,702
Changes of assumptions	0	0
Net difference between projected and actual earnings of pension plan investments	0	2,990,962
Total	$0	$4,293,664

Amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

Year ended June 30:	**Outflows (a)**	**Inflows (b)**	**Amount Reported (a) + (b)**
2015	$0	$(1,181,975)	$(1,181,975)
2016	0	(1,181,975)	(1,181,975)
2017	0	(1,181,975)	(1,181,975)
2018	0	(1,181,975)	(1,181,975)
2019	0	(747,741)	(747,741)
2020	0	0	0
Thereafter	0	0	0

Development of Deferred Outflows and Deferred Inflows

	Original Amount	Date Established	Original Period	Amount Recognized in Expense	Deferred Outflow Amount	Deferred Inflow Amount
Experience (gains) / losses	$(1,736,936)	6/30/2015	4	$(434,234)	$0	$(1,302,702)
		Total		$(434,234)	$0	$(1,302,702)
Investment (gains) / losses	$(3,738,703)	6/30/2015	5	$(747,741)	$0	$(2,990,962)
		Total		$(747,741)	$0	$(2,990,962)
Assumption changes	$0	6/30/2015	0	$0	$0	$(0)
		Total		$0	$0	$(0)

Schedule of Changes in the Net Pension Liability (Asset) and Related Ratios

for fiscal year ending June 30, 2015 (year shown is measurement date)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total Pension Liability										
Service cost	$1,439,339									
Interest	3,355,422									
Changes of benefit terms	0									
Differences between expected and actual experience	(1,736,936)									
Changes of assumptions	0									
Benefit Payments, including refunds of employee contributions	(3,678,157)									
Net Change in Total Pension Liability (Asset)	(620,332)									
Total Pension Liability (Asset) - beginning	45,138,702									
Total Pension Liability (Asset) - ending (a)	$44,518,370									
Plan Fiduciary Net Position										
Contributions - employer	$913,895									
Contributions - employee	857,440									
Net investment income	6,829,354									
Benefit Payments, including refunds of employee contributions	(3,678,157)									
Administrative expenses	(25,669)									
Other	0									
Net Change in Plan Fiduciary Net Position	$4,896,863									
Plan Fiduciary Net Position - beginning	42,174,919									
Plan Fiduciary Net Position - ending (b)	$47,071,782									
Net Pension Liability (Asset) - ending (a) - (b)	$(2,553,412)									
Plan Fiduciary Net Position as a % of the Total Pension Liability	105.74%									
Covered-employee payroll	$16,892,704									
Net Pension Liability (Asset) as a % of covered-employee payroll	(15.12%)									

Schedule of Contributions

	fiscal year ending June 30									
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Actuarially determined contribution	$913,895									
Contributions in relation to the actuarially determined contribution	913,895									
Contribution deficiency (excess)	$0									
Covered-employee payroll	$16,892,704									
Contributions as a percentage of covered-employee payroll	5.41%									

Notes to the Schedule Relating to the Actuarially Determined Contribution

Employer contributions for the year ended June 30, 2015 are based on the results of the July 1, 2013 actuarial valuation. Accordingly, governmental employers utilize the following notes to the schedule relating to the Actuarially Determined Contributions when presenting 2015. If 2015 is not presented, then a separate set of notes would apply.

Actuarial cost method	Frozen initial liability
Amortization method	Level dollar, closed (not to exceed 20 years)
Remaining amortization period	5 years
Asset valuation method	10-year smoothed within a 20 percent corridor to market value
Inflation	3.0 percent
Salary increases	Graded salary ranges from 8.97 to 3.71 percent based on age, including inflation, averaging 4.25 percent
Investment rate of return	7.5 percent, net of investment expense, including inflation
Retirement age	Pattern of retirement determined by experience study
Mortality	Customized table based on actual experience including an adjustment for some anticipated improvement
Cost of living adjustments	2.5 percent, if provided

Bryan, Pendleton, Swats & McAllister, LLC
A Wells Fargo Company

Tennessee Consolidated Retirement System

LAUDERDALE COUNTY

GASB Statement No. 68

Actuarial Report
Reporting Date: June 30, 2015

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Accounting Governance Background

Statement No. 27 of the Governmental Accounting Standards Board was amended by Statement No. 68 of the Governmental Accounting Standards Board. Statement No. 68 became effective for employer financial statements for the fiscal year beginning after June 15, 2014. Statement No. 68 establishes financial reporting standards for state and local government employers with pension plans that are administered through trusts or equivalent arrangements. The objective of this statement is to improve the usefulness of the information included in employer financial statements.

Purpose and Use

This report has been prepared exclusively for the Tennessee Consolidated Retirement System. Actuarial computations under Statement No. 68 are for purposes of fulfilling employer governmental accounting requirements, and may not be appropriate for other purposes. The calculations reported herein have been made on a basis consistent with our understanding of the statement. Bryan, Pendleton, Swats & McAllister, LLC is not responsible for consequences resulting from the use of any part of this report without prior authorization or approval. This report provides actuarial advice and does not constitute legal, accounting, tax or investment advice. Determinations for other purposes, such as funding, bond ratings, or judging benefit security, may be significantly different from the results shown in this report.

Actuarial findings in this report are based on actuarial assumptions which reflect expected plan experience. Although the deviation of the actual future plan experience and the expected experience inherently creates some uncertainty with the results, in our opinion the actuarial assumptions reasonably reflect the expected future experience of the plan. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan’s funded status); and changes in plan provisions or applicable law. All of these factors can cause volatility in the Net Pension Liability (Asset) over time.

Data

The calculations shown in this report have been prepared using employee data (including covered-employee payroll) and plan documentation furnished by the Tennessee Consolidated Retirement System as of June 30, 2014. Plan asset information was furnished by the Tennessee Consolidated Retirement System for the twelve month period ending June 30, 2014. While we have not audited the data, we have reviewed it for reasonableness and internal consistency. We have made reasonable assumptions with regard to any incomplete records, and to the best of our knowledge, there are no material limitations to the data provided. A complete summary of the census data utilized in this report is available upon request.

Subsequent Events

We are unaware of any subsequent event after June 30, 2015 which would have a material effect on the results presented in this report.

Assumptions, Methods, and Procedures

The results presented in this report comply with the assumptions, methods, and procedures under Statement No. 68. The results are based on a June 30, 2014 actuarial valuation date, a measurement date of June 30, 2014 and a reporting date of June 30, 2015. All assumptions are selected by the TCRS Board of Trustees. Statement No. 68 mandates the use of the Entry Age Normal actuarial funding method.

Changes in Plan Provisions, Actuarial Assumptions, and Actuarial Methods

No changes were made to the plan provisions, actuarial assumptions and methods at the June 30, 2014 actuarial valuation date compared to the most recent funding valuation completed as of July 1, 2013.

Summaries of the plan provisions and actuarial assumptions can be found in the Basis for Valuation section of this report and in the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013.

Professional Qualifications

This report has been prepared under the supervision of Justin C. Thacker, a member of the American Academy of Actuaries, a Fellow of the Society of Actuaries, and a consulting actuary with Bryan, Pendleton, Swats and McAllister, LLC, who has met the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions herein. To the best of our knowledge this report has been prepared in accordance with generally accepted actuarial standards and our understanding of Government Accounting Standards Board Statement No. 68, including the overall appropriateness of the analysis, assumptions, and results and conforms to appropriate Standards of Practice as promulgated from time to time by the Actuarial Standards Board, which standards form the basis for the actuarial report. We are not aware of any direct or material indirect financial interest or relationship that could create, or appear to create, a conflict of interest that would impair the objectivity of our work. The undersigned are available to provide supplemental information or explanation.

Justin Thacker

October 15, 2015
Date

Justin C. Thacker
Fellow, Society of Actuaries
Enrollment No. 14-6078
Phone 615.665.5387

Tim Lavender

October 15, 2015
Date

Tim C. Lavender
Fellow, Society of Actuaries
Enrollment No. 14-6745
Phone 615.665.5305

Summary of Plan Provisions

The actuarial valuation includes all benefits provided by the Tennessee Consolidated Retirement System to the current active and inactive plan members. Benefit provisions include retirement, death and disability benefits. If applicable, post-retirement cost of living adjustments are included. Please refer to the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013 for a complete summary of plan provisions.

Summary of Actuarial Assumptions and Methods

Investment Rate of Return

7.5 percent per annum, compounded annually

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees in conjunction with the June 30, 2012 actuarial experience study by considering the following three techniques: (1) the 25-year historical return of the TCRS at June 30, 2012, (2) the historical market returns of asset classes from 1926 to 2012 using the TCRS investment policy asset allocation, and (3) capital market projections that were utilized as a building-block method in which best-estimate ranges of expected future real rate of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. Four sources of capital market projections were blended and utilized in the third technique. The blended capital market projection established the long-term expected rate of return by weighting the expected future real rate of return by the target asset allocation percentage and by adding inflation of 3 percent. The target allocation and best estimates of arithmetic real rates of return for each major asset class are summarized in the following table:

Asset Class	Long-Term Expected Real Rate of Return	Target Allocations
U.S. equity	6.46%	33%
Developed market international equity	6.26%	17%
Emerging market international equity	6.40%	5%
Private equity and strategic lending	4.61%	8%
U.S. fixed income	0.98%	29%
Real estate	4.73%	7%
Short-term securities	0.00%	1%
		100%

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees as 7.5 percent based on a blending of the three techniques described above.

Discount Rate

7.5 percent per annum, compounded annually

Paragraph 29 of Statement No. 68 provides for an alternative method to be used other than the projection of the pension plan's fiduciary net position based on projected contributions, benefit payments and investment earnings. The current contribution policy requires contributions of the normal cost plus a closed amortization of the unfunded liabilities (not to exceed 30 years from when the unfunded liability was created). In addition, the employer has a documented history of contributing 100 percent of the actuarially determined contribution requirement. The discount rate utilized assumes that employee contributions will be made at the current applicable rate and that contributions from the employer will be made at the actuarially determined contribution rate pursuant to an actuarial valuation in accordance with the pension funding policy of the TCRS Board of Trustees and as required to be paid by state statute. Based on these assumptions and the actuarial methodology adopted, the employer's fiduciary net position is expected to remain positive and to be available to make projected future benefit payments of current active and inactive members and to cover administrative expenses. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Actuarial Valuation Method

All liabilities and normal costs shown in this report are calculated based on the Entry Age Normal method.

Asset Valuation Method

Fair Market Value

Amortization Method for GASB Statement No. 68

Level Dollar

Amortization Period for GASB Statement No. 68

Investment gains or losses are amortized over five years. Experience gains or losses and changes in actuarial assumptions are amortized over the average working lifetime of all participants. Plan amendments are recognized immediately.

Additional Assumptions

Please refer to the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013 for a complete summary of actuarial assumptions.

Selection of Assumptions

The TCRS Board of Trustees selected the assumptions described above based on the review of plan experience in conjunction with an experience study conducted as of June 30, 2012. A complete plan experience study is conducted every four years.

GASB Statement No. 68

This section presents specific information required under Statement No. 68. The information in this report is to satisfy the employer reporting for the pension plan. This section contains the following:

- Summary of Key Actuarial Assumptions for Statement No. 68
- Employees Covered by Benefit Terms at June 30, 2014
- Contributions
- Schedule of Changes in the Net Pension Liability (Asset)
- Sensitivity of Net Pension Liability (Asset) to Changes in the Discount Rate
- Pension Expense (Income) and Deferred Outflows/Inflows of Resources
- Schedule of Changes in Net Pension Liability (Asset) and Related Ratios
- Schedule of Contributions

Fiduciary Net Position is the amount of assets available for benefits in the Pension Plan.

Total Pension Liability is the plan liability determined using assumptions listed in the Summary of Actuarial Assumptions.

Net Pension Liability (Asset) is the difference in the Total Pension Liability and the Fiduciary Net Position.

Summary of Key Actuarial Assumptions for GASB Statement No. 68

Reporting Date	June 30, 2015
Measurement Date	June 30, 2014
Actuarial Valuation Date	June 30, 2014
Actuarial cost method	Entry Age Normal
Amortization method	Level dollar
Asset valuation method	Fair market value
Inflation	3.0 percent
Salary increases	Graded salary ranges from 8.97 to 3.71 percent based on age, including inflation, averaging 4.25 percent
Investment rate of return	7.5 percent, net of investment expense, including inflation
Retirement age	Pattern of retirement determined by experience study
Mortality	Customized table based on actual experience including an adjustment for some anticipated improvement
Cost of living adjustments	2.5 percent, if provided

Employees Covered by Benefit Terms at June 30, 2014

Inactive employees or beneficiaries currently receiving benefits	243
Inactive employees entitled to but not yet receiving benefits	195
Active employees	361
Total	799

A complete summary of the census data utilized in this report is available upon request.

Contributions

June 30, 2014 employer contributions	$833,362
Employer contribution rate	8.87%

Schedule of Changes in Net Pension Liability (Asset)

	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (Asset) (a) - (b)
Balance at June 30, 2013	$28,661,565	$27,436,174	$1,225,391
Service cost	715,057		715,057
Interest	2,148,509		2,148,509
Differences between expected and actual experience	(295,633)		(295,633)
Contributions-employer		833,362	(833,362)
Contributions-employee		489,533	(489,533)
Net investment income		4,540,036	(4,540,036)
Benefit payments, including refunds of employee contributions	(1,459,681)	(1,459,681)	
Administrative expense		(14,296)	14,296
Net changes	1,108,252	4,388,954	(3,280,702)
Balance at June 30, 2014	$29,769,817	$31,825,128	$(2,055,311)

Sensitivity of Net Pension Liability (Asset) to Changes in the Discount Rate

The following represents the net pension liability (asset) calculated using the stated discount rate, as well as what the net pension liability (asset) would be if it were calculated using a discount rate that is 1-percentage-point lower or 1-percentage-point higher than the current rate:

	1% Decrease (6.50%)	Current Rate (7.50%)	1% Increase (8.50%)
Net Pension Liability (Asset)	$1,612,602	$(2,055,311)	$(5,118,791)

Pension Expense (Income) and Deferred Outflows/Inflows of Resources

	Pension Expense (Income)
Service cost	$715,057
Interest	2,148,509
Contributions-employees	(489,533)
Projected investment income	(2,052,047)
Recognition of experience (gain)/loss	(59,127)
Recognition of investment (gain)/loss	(497,598)
Administrative expense	14,296
Pension Expense (Income)	$(220,443)

For the year ended June 30, 2015, the recognized pension expense (income) is $(220,443). At June 30, 2015, deferred outflows of resources and deferred inflows of resources related to pensions are from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$0	$236,506
Changes of assumptions	0	0
Net difference between projected and actual earnings of pension plan investments	0	1,990,391
Total	$0	$2,226,897

Amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

Year ended June 30:	Outflows (a)	Inflows (b)	Amount Reported (a) + (b)
2015	$0	$(556,725)	$(556,725)
2016	0	(556,725)	(556,725)
2017	0	(556,725)	(556,725)
2018	0	(556,725)	(556,725)
2019	0	(556,725)	(556,725)
2020	0	0	0
Thereafter	0	0	0

Development of Deferred Outflows and Deferred Inflows

	Original Amount	Date Established	Original Period	Amount Recognized in Expense	Deferred Outflow Amount	Deferred Inflow Amount
Experience (gains) / losses	$(295,633)	6/30/2015	5	$(59,127)	$0	$(236,506)
		Total		$(59,127)	$0	$(236,506)
Investment (gains) / losses	$(2,487,989)	6/30/2015	5	$(497,598)	$0	$(1,990,391)
		Total		$(497,598)	$0	$(1,990,391)
Assumption changes	$0	6/30/2015	0	$0	$0	$(0)
		Total		$0	$0	$(0)

Schedule of Changes in the Net Pension Liability (Asset) and Related Ratios

for fiscal year ending June 30, 2015 (year shown is measurement date)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total Pension Liability										
Service cost	$715,057									
Interest	2,148,509									
Changes of benefit terms	0									
Differences between expected and actual experience	(295,633)									
Changes of assumptions	0									
Benefit Payments, including refunds of employee contributions	(1,459,681)									
Net Change in Total Pension Liability (Asset)	1,108,252									
Total Pension Liability (Asset) - beginning	28,661,565									
Total Pension Liability (Asset) - ending (a)	$29,769,817									
Plan Fiduciary Net Position										
Contributions - employer	$833,362									
Contributions - employee	489,533									
Net investment income	4,540,036									
Benefit Payments, including refunds of employee contributions	(1,459,681)									
Administrative expenses	(14,296)									
Other	0									
Net Change in Plan Fiduciary Net Position	$4,388,954									
Plan Fiduciary Net Position - beginning	27,436,174									
Plan Fiduciary Net Position - ending (b)	$31,825,128									
Net Pension Liability (Asset) - ending (a) - (b)	$(2,055,311)									
Plan Fiduciary Net Position as a % of the Total Pension Liability	106.90%									
Covered-employee payroll	$9,396,711									
Net Pension Liability (Asset) as a % of covered-employee payroll	(21.87%)									

Schedule of Contributions

	fiscal year ending June 30									
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Actuarially determined contribution	$833,362									
Contributions in relation to the actuarially determined contribution	833,362									
Contribution deficiency (excess)	$0									
Covered-employee payroll	$9,396,711									
Contributions as a percentage of covered-employee payroll	8.87%									

Notes to the Schedule Relating to the Actuarially Determined Contribution

Employer contributions for the year ended June 30, 2015 are based on the results of the July 1, 2013 actuarial valuation. Accordingly, governmental employers utilize the following notes to the schedule relating to the Actuarially Determined Contributions when presenting 2015. If 2015 is not presented, then a separate set of notes would apply.

Actuarial cost method	Frozen initial liability
Amortization method	Level dollar, closed (not to exceed 20 years)
Remaining amortization period	2 years
Asset valuation method	10-year smoothed within a 20 percent corridor to market value
Inflation	3.0 percent
Salary increases	Graded salary ranges from 8.97 to 3.71 percent based on age, including inflation, averaging 4.25 percent
Investment rate of return	7.5 percent, net of investment expense, including inflation
Retirement age	Pattern of retirement determined by experience study
Mortality	Customized table based on actual experience including an adjustment for some anticipated improvement
Cost of living adjustments	2.5 percent, if provided

Bryan, Pendleton, Swats & McAllister, LLC
A Wells Fargo Company

Tennessee Consolidated Retirement System

MOSHEIM

GASB Statement No. 68

Actuarial Report
Reporting Date: June 30, 2015

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Accounting Governance Background

Statement No. 27 of the Governmental Accounting Standards Board was amended by Statement No. 68 of the Governmental Accounting Standards Board. Statement No. 68 became effective for employer financial statements for the fiscal year beginning after June 15, 2014. Statement No. 68 establishes financial reporting standards for state and local government employers with pension plans that are administered through trusts or equivalent arrangements. The objective of this statement is to improve the usefulness of the information included in employer financial statements.

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This report has been prepared exclusively for the Tennessee Consolidated Retirement System. Actuarial computations under Statement No. 68 are for purposes of fulfilling employer governmental accounting requirements, and may not be appropriate for other purposes. The calculations reported herein have been made on a basis consistent with our understanding of the statement. Bryan, Pendleton, Swats & McAllister, LLC is not responsible for consequences resulting from the use of any part of this report without prior authorization or approval. This report provides actuarial advice and does not constitute legal, accounting, tax or investment advice. Determinations for other purposes, such as funding, bond ratings, or judging benefit security, may be significantly different from the results shown in this report.

Actuarial findings in this report are based on actuarial assumptions which reflect expected plan experience. Although the deviation of the actual future plan experience and the expected experience inherently creates some uncertainty with the results, in our opinion the actuarial assumptions reasonably reflect the expected future experience of the plan. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan’s funded status); and changes in plan provisions or applicable law. All of these factors can cause volatility in the Net Pension Liability (Asset) over time.

Data

The calculations shown in this report have been prepared using employee data (including covered-employee payroll) and plan documentation furnished by the Tennessee Consolidated Retirement System as of June 30, 2014. Plan asset information was furnished by the Tennessee Consolidated Retirement System for the twelve month period ending June 30, 2014. While we have not audited the data, we have reviewed it for reasonableness and internal consistency. We have made reasonable assumptions with regard to any incomplete records, and to the best of our knowledge, there are no material limitations to the data provided. A complete summary of the census data utilized in this report is available upon request.

Subsequent Events

We are unaware of any subsequent event after June 30, 2015 which would have a material effect on the results presented in this report.

Assumptions, Methods, and Procedures

The results presented in this report comply with the assumptions, methods, and procedures under Statement No. 68. The results are based on a June 30, 2014 actuarial valuation date, a measurement date of June 30, 2014 and a reporting date of June 30, 2015. All assumptions are selected by the TCRS Board of Trustees. Statement No. 68 mandates the use of the Entry Age Normal actuarial funding method.

Changes in Plan Provisions, Actuarial Assumptions, and Actuarial Methods

No changes were made to the plan provisions, actuarial assumptions and methods at the June 30, 2014 actuarial valuation date compared to the most recent funding valuation completed as of July 1, 2013.

Summaries of the plan provisions and actuarial assumptions can be found in the Basis for Valuation section of this report and in the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013.

Professional Qualifications

This report has been prepared under the supervision of Justin C. Thacker, a member of the American Academy of Actuaries, a Fellow of the Society of Actuaries, and a consulting actuary with Bryan, Pendleton, Swats and McAllister, LLC, who has met the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions herein. To the best of our knowledge this report has been prepared in accordance with generally accepted actuarial standards and our understanding of Government Accounting Standards Board Statement No. 68, including the overall appropriateness of the analysis, assumptions, and results and conforms to appropriate Standards of Practice as promulgated from time to time by the Actuarial Standards Board, which standards form the basis for the actuarial report. We are not aware of any direct or material indirect financial interest or relationship that could create, or appear to create, a conflict of interest that would impair the objectivity of our work. The undersigned are available to provide supplemental information or explanation.

Justin C. Thacker
Fellow, Society of Actuaries
Enrollment No. 14-6078
Phone 615.665.5387

October 15, 2015
Date

Tim C. Lavender
Fellow, Society of Actuaries
Enrollment No. 14-6745
Phone 615.665.5305

October 15, 2015
Date

Summary of Plan Provisions

The actuarial valuation includes all benefits provided by the Tennessee Consolidated Retirement System to the current active and inactive plan members. Benefit provisions include retirement, death and disability benefits. If applicable, post-retirement cost of living adjustments are included. Please refer to the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013 for a complete summary of plan provisions.

Summary of Actuarial Assumptions and Methods

Investment Rate of Return

7.5 percent per annum, compounded annually

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees in conjunction with the June 30, 2012 actuarial experience study by considering the following three techniques: (1) the 25-year historical return of the TCRS at June 30, 2012, (2) the historical market returns of asset classes from 1926 to 2012 using the TCRS investment policy asset allocation, and (3) capital market projections that were utilized as a building-block method in which best-estimate ranges of expected future real rate of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. Four sources of capital market projections were blended and utilized in the third technique. The blended capital market projection established the long-term expected rate of return by weighting the expected future real rate of return by the target asset allocation percentage and by adding inflation of 3 percent. The target allocation and best estimates of arithmetic real rates of return for each major asset class are summarized in the following table:

Asset Class	**Long-Term Expected Real Rate of Return**	**Target Allocations**
U.S. equity	6.46%	33%
Developed market international equity	6.26%	17%
Emerging market international equity	6.40%	5%
Private equity and strategic lending	4.61%	8%
U.S. fixed income	0.98%	29%
Real estate	4.73%	7%
Short-term securities	0.00%	1%
		100%

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees as 7.5 percent based on a blending of the three techniques described above.

Discount Rate

7.5 percent per annum, compounded annually

Paragraph 29 of Statement No. 68 provides for an alternative method to be used other than the projection of the pension plan's fiduciary net position based on projected contributions, benefit payments and investment earnings. The current contribution policy requires contributions of the normal cost plus a closed amortization of the unfunded liabilities (not to exceed 30 years from when the unfunded liability was created). In addition, the employer has a documented history of contributing 100 percent of the actuarially determined contribution requirement. The discount rate utilized assumes that employee contributions will be made at the current applicable rate and that contributions from the employer will be made at the actuarially determined contribution rate pursuant to an actuarial valuation in accordance with the pension funding policy of the TCRS Board of Trustees and as required to be paid by state statute. Based on these assumptions and the actuarial methodology adopted, the employer's fiduciary net position is expected to remain positive and to be available to make projected future benefit payments of current active and inactive members and to cover administrative expenses. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Actuarial Valuation Method

All liabilities and normal costs shown in this report are calculated based on the Entry Age Normal method.

Asset Valuation Method

Fair Market Value

Amortization Method for GASB Statement No. 68

Level Dollar

Amortization Period for GASB Statement No. 68

Investment gains or losses are amortized over five years. Experience gains or losses and changes in actuarial assumptions are amortized over the average working lifetime of all participants. Plan amendments are recognized immediately.

Additional Assumptions

Please refer to the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013 for a complete summary of actuarial assumptions.

Selection of Assumptions

The TCRS Board of Trustees selected the assumptions described above based on the review of plan experience in conjunction with an experience study conducted as of June 30, 2012. A complete plan experience study is conducted every four years.

GASB Statement No. 68

This section presents specific information required under Statement No. 68. The information in this report is to satisfy the employer reporting for the pension plan. This section contains the following:

- Summary of Key Actuarial Assumptions for Statement No. 68
- Employees Covered by Benefit Terms at June 30, 2014
- Contributions
- Schedule of Changes in the Net Pension Liability (Asset)
- Sensitivity of Net Pension Liability (Asset) to Changes in the Discount Rate
- Pension Expense (Income) and Deferred Outflows/Inflows of Resources
- Schedule of Changes in Net Pension Liability (Asset) and Related Ratios
- Schedule of Contributions

Fiduciary Net Position is the amount of assets available for benefits in the Pension Plan.

Total Pension Liability is the plan liability determined using assumptions listed in the Summary of Actuarial Assumptions.

Net Pension Liability (Asset) is the difference in the Total Pension Liability and the Fiduciary Net Position.

Summary of Key Actuarial Assumptions for GASB Statement No. 68

Reporting Date	June 30, 2015
Measurement Date	June 30, 2014
Actuarial Valuation Date	June 30, 2014
Actuarial cost method	Entry Age Normal
Amortization method	Level dollar
Asset valuation method	Fair market value
Inflation	3.0 percent
Salary increases	Graded salary ranges from 8.97 to 3.71 percent based on age, including inflation, averaging 4.25 percent
Investment rate of return	7.5 percent, net of investment expense, including inflation
Retirement age	Pattern of retirement determined by experience study
Mortality	Customized table based on actual experience including an adjustment for some anticipated improvement
Cost of living adjustments	2.5 percent, if provided

Employees Covered by Benefit Terms at June 30, 2014

Inactive employees or beneficiaries currently receiving benefits	0
Inactive employees entitled to but not yet receiving benefits	0
Active employees	6
Total	6

A complete summary of the census data utilized in this report is available upon request.

Contributions

June 30, 2014 employer contributions	$15,382
Employer contribution rate	6.86%

Schedule of Changes in Net Pension Liability (Asset)

	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (Asset) (a) - (b)
Balance at June 30, 2013	$168,432	$193,726	$(25,294)
Service cost	18,442		18,442
Interest	13,339		13,339
Differences between expected and actual experience	3,668		3,668
Contributions-employer		15,382	(15,382)
Contributions-employee		11,211	(11,211)
Net investment income		32,807	(32,807)
Benefit payments, including refunds of employee contributions	(18,042)	(18,042)	
Administrative expense		(212)	212
Net changes	17,407	41,146	(23,739)
Balance at June 30, 2014	$185,839	$234,872	$(49,033)

Sensitivity of Net Pension Liability (Asset) to Changes in the Discount Rate

The following represents the net pension liability (asset) calculated using the stated discount rate, as well as what the net pension liability (asset) would be if it were calculated using a discount rate that is 1-percentage-point lower or 1-percentage-point higher than the current rate:

	1% Decrease (6.50%)	Current Rate (7.50%)	1% Increase (8.50%)
Net Pension Liability (Asset)	$(21,435)	$(49,033)	$(72,053)

Pension Expense (Income) and Deferred Outflows/Inflows of Resources

	Pension Expense (Income)
Service cost	$18,442
Interest	13,339
Contributions-employees	(11,211)
Projected investment income	(14,842)
Recognition of experience (gain)/loss	408
Recognition of investment (gain)/loss	(3,593)
Administrative expense	212
Pension Expense (Income)	$2,755

For the year ended June 30, 2015, the recognized pension expense (income) is $2,755. At June 30, 2015, deferred outflows of resources and deferred inflows of resources related to pensions are from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$3,260	$0
Changes of assumptions	0	0
Net difference between projected and actual earnings of pension plan investments	0	14,372
Total	$3,260	$14,372

Amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

Year ended June 30:	Outflows (a)	Inflows (b)	Amount Reported (a) + (b)
2015	$408	$(3,593)	$(3,185)
2016	408	(3,593)	(3,185)
2017	408	(3,593)	(3,185)
2018	408	(3,593)	(3,185)
2019	408	(3,593)	(3,185)
2020	408	0	408
Thereafter	1,224	0	1,224

Development of Deferred Outflows and Deferred Inflows

	Original Amount	Date Established	Original Period	Amount Recognized in Expense	Deferred Outflow Amount	Deferred Inflow Amount
Experience (gains) / losses	$3,668	6/30/2015	9	$408	$3,260	$(0)
		Total		$408	$3,260	$(0)
Investment (gains) / losses	$(17,965)	6/30/2015	5	$(3,593)	$0	$(14,372)
		Total		$(3,593)	$0	$(14,372)
Assumption changes	$0	6/30/2015	0	$0	$0	$(0)
		Total		$0	$0	$(0)

Schedule of Changes in the Net Pension Liability (Asset) and Related Ratios

for fiscal year ending June 30, 2015 (year shown is measurement date)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total Pension Liability										
Service cost	$18,442									
Interest	13,339									
Changes of benefit terms	0									
Differences between expected and actual experience	3,668									
Changes of assumptions	0									
Benefit Payments, including refunds of employee contributions	(18,042)									
Net Change in Total Pension Liability (Asset)	17,407									
Total Pension Liability (Asset) - beginning	168,432									
Total Pension Liability (Asset) - ending (a)	$185,839									
Plan Fiduciary Net Position										
Contributions - employer	$15,382									
Contributions - employee	11,211									
Net investment income	32,807									
Benefit Payments, including refunds of employee contributions	(18,042)									
Administrative expenses	(212)									
Other	0									
Net Change in Plan Fiduciary Net Position	$41,146									
Plan Fiduciary Net Position - beginning	193,726									
Plan Fiduciary Net Position - ending (b)	$234,872									
Net Pension Liability (Asset) - ending (a) - (b)	$(49,033)									
Plan Fiduciary Net Position as a % of the Total Pension Liability	126.38%									
Covered-employee payroll	$224,233									
Net Pension Liability (Asset) as a % of covered-employee payroll	(21.87%)									

Schedule of Contributions

	fiscal year ending June 30									
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Actuarially determined contribution	$15,382									
Contributions in relation to the actuarially determined contribution	15,382									
Contribution deficiency (excess)	$0									
Covered-employee payroll	$224,233									
Contributions as a percentage of covered-employee payroll	6.86%									

Notes to the Schedule Relating to the Actuarially Determined Contribution

Employer contributions for the year ended June 30, 2015 are based on the results of the July 1, 2013 actuarial valuation. Accordingly, governmental employers utilize the following notes to the schedule relating to the Actuarially Determined Contributions when presenting 2015. If 2015 is not presented, then a separate set of notes would apply.

Actuarial cost method	Frozen initial liability
Amortization method	Level dollar, closed (not to exceed 20 years)
Remaining amortization period	3 years
Asset valuation method	10-year smoothed within a 20 percent corridor to market value
Inflation	3.0 percent
Salary increases	Graded salary ranges from 8.97 to 3.71 percent based on age, including inflation, averaging 4.25 percent
Investment rate of return	7.5 percent, net of investment expense, including inflation
Retirement age	Pattern of retirement determined by experience study
Mortality	Customized table based on actual experience including an adjustment for some anticipated improvement
Cost of living adjustments	2.5 percent, if provided

Tennessee Consolidated Retirement System

WATAUGA CITY OF

GASB Statement No. 68

Actuarial Report
Reporting Date: June 30, 2015

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Accounting Governance Background

Statement No. 27 of the Governmental Accounting Standards Board was amended by Statement No. 68 of the Governmental Accounting Standards Board. Statement No. 68 became effective for employer financial statements for the fiscal year beginning after June 15, 2014. Statement No. 68 establishes financial reporting standards for state and local government employers with pension plans that are administered through trusts or equivalent arrangements. The objective of this statement is to improve the usefulness of the information included in employer financial statements.

Purpose and Use

This report has been prepared exclusively for the Tennessee Consolidated Retirement System. Actuarial computations under Statement No. 68 are for purposes of fulfilling employer governmental accounting requirements, and may not be appropriate for other purposes. The calculations reported herein have been made on a basis consistent with our understanding of the statement. Bryan, Pendleton, Swats & McAllister, LLC is not responsible for consequences resulting from the use of any part of this report without prior authorization or approval. This report provides actuarial advice and does not constitute legal, accounting, tax or investment advice. Determinations for other purposes, such as funding, bond ratings, or judging benefit security, may be significantly different from the results shown in this report.

Actuarial findings in this report are based on actuarial assumptions which reflect expected plan experience. Although the deviation of the actual future plan experience and the expected experience inherently creates some uncertainty with the results, in our opinion the actuarial assumptions reasonably reflect the expected future experience of the plan. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan’s funded status); and changes in plan provisions or applicable law. All of these factors can cause volatility in the Net Pension Liability (Asset) over time.

Data

The calculations shown in this report have been prepared using employee data (including covered-employee payroll) and plan documentation furnished by the Tennessee Consolidated Retirement System as of June 30, 2014. Plan asset information was furnished by the Tennessee Consolidated Retirement System for the twelve month period ending June 30, 2014. While we have not audited the data, we have reviewed it for reasonableness and internal consistency. We have made reasonable assumptions with regard to any incomplete records, and to the best of our knowledge, there are no material limitations to the data provided. A complete summary of the census data utilized in this report is available upon request.

Subsequent Events

We are unaware of any subsequent event after June 30, 2015 which would have a material effect on the results presented in this report.

Assumptions, Methods, and Procedures

The results presented in this report comply with the assumptions, methods, and procedures under Statement No. 68. The results are based on a June 30, 2014 actuarial valuation date, a measurement date of June 30, 2014 and a reporting date of June 30, 2015. All assumptions are selected by the TCRS Board of Trustees. Statement No. 68 mandates the use of the Entry Age Normal actuarial funding method.

Changes in Plan Provisions, Actuarial Assumptions, and Actuarial Methods

No changes were made to the plan provisions, actuarial assumptions and methods at the June 30, 2014 actuarial valuation date compared to the most recent funding valuation completed as of July 1, 2013.

Summaries of the plan provisions and actuarial assumptions can be found in the Basis for Valuation section of this report and in the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013.

Professional Qualifications

This report has been prepared under the supervision of Justin C. Thacker, a member of the American Academy of Actuaries, a Fellow of the Society of Actuaries, and a consulting actuary with Bryan, Pendleton, Swats and McAllister, LLC, who has met the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions herein. To the best of our knowledge this report has been prepared in accordance with generally accepted actuarial standards and our understanding of Government Accounting Standards Board Statement No. 68, including the overall appropriateness of the analysis, assumptions, and results and conforms to appropriate Standards of Practice as promulgated from time to time by the Actuarial Standards Board, which standards form the basis for the actuarial report. We are not aware of any direct or material indirect financial interest or relationship that could create, or appear to create, a conflict of interest that would impair the objectivity of our work. The undersigned are available to provide supplemental information or explanation.

Justin Thacker

October 15, 2015

Justin C. Thacker
Fellow, Society of Actuaries
Enrollment No. 14-6078
Phone 615.665.5387

Date

Tim Lavender

October 15, 2015

Tim C. Lavender
Fellow, Society of Actuaries
Enrollment No. 14-6745
Phone 615.665.5305

Date

Summary of Plan Provisions

The actuarial valuation includes all benefits provided by the Tennessee Consolidated Retirement System to the current active and inactive plan members. Benefit provisions include retirement, death and disability benefits. If applicable, post-retirement cost of living adjustments are included. Please refer to the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013 for a complete summary of plan provisions.

Summary of Actuarial Assumptions and Methods

Investment Rate of Return

7.5 percent per annum, compounded annually

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees in conjunction with the June 30, 2012 actuarial experience study by considering the following three techniques: (1) the 25-year historical return of the TCRS at June 30, 2012, (2) the historical market returns of asset classes from 1926 to 2012 using the TCRS investment policy asset allocation, and (3) capital market projections that were utilized as a building-block method in which best-estimate ranges of expected future real rate of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. Four sources of capital market projections were blended and utilized in the third technique. The blended capital market projection established the long-term expected rate of return by weighting the expected future real rate of return by the target asset allocation percentage and by adding inflation of 3 percent. The target allocation and best estimates of arithmetic real rates of return for each major asset class are summarized in the following table:

Asset Class	Long-Term Expected Real Rate of Return	Target Allocations
U.S. equity	6.46%	33%
Developed market international equity	6.26%	17%
Emerging market international equity	6.40%	5%
Private equity and strategic lending	4.61%	8%
U.S. fixed income	0.98%	29%
Real estate	4.73%	7%
Short-term securities	0.00%	1%
		100%

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees as 7.5 percent based on a blending of the three techniques described above.

Discount Rate

7.5 percent per annum, compounded annually

Paragraph 29 of Statement No. 68 provides for an alternative method to be used other than the projection of the pension plan's fiduciary net position based on projected contributions, benefit payments and investment earnings. The current contribution policy requires contributions of the normal cost plus a closed amortization of the unfunded liabilities (not to exceed 30 years from when the unfunded liability was created). In addition, the employer has a documented history of contributing 100 percent of the actuarially determined contribution requirement. The discount rate utilized assumes that employee contributions will be made at the current applicable rate and that contributions from the employer will be made at the actuarially determined contribution rate pursuant to an actuarial valuation in accordance with the pension funding policy of the TCRS Board of Trustees and as required to be paid by state statute. Based on these assumptions and the actuarial methodology adopted, the employer's fiduciary net position is expected to remain positive and to be available to make projected future benefit payments of current active and inactive members and to cover administrative expenses. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Actuarial Valuation Method

All liabilities and normal costs shown in this report are calculated based on the Entry Age Normal method.

Asset Valuation Method

Fair Market Value

Amortization Method for GASB Statement No. 68

Level Dollar

Amortization Period for GASB Statement No. 68

Investment gains or losses are amortized over five years. Experience gains or losses and changes in actuarial assumptions are amortized over the average working lifetime of all participants. Plan amendments are recognized immediately.

Additional Assumptions

Please refer to the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013 for a complete summary of actuarial assumptions.

Selection of Assumptions

The TCRS Board of Trustees selected the assumptions described above based on the review of plan experience in conjunction with an experience study conducted as of June 30, 2012. A complete plan experience study is conducted every four years.

GASB Statement No. 68

This section presents specific information required under Statement No. 68. The information in this report is to satisfy the employer reporting for the pension plan. This section contains the following:

- Summary of Key Actuarial Assumptions for Statement No. 68
- Employees Covered by Benefit Terms at June 30, 2014
- Contributions
- Schedule of Changes in the Net Pension Liability (Asset)
- Sensitivity of Net Pension Liability (Asset) to Changes in the Discount Rate
- Pension Expense (Income) and Deferred Outflows/Inflows of Resources
- Schedule of Changes in Net Pension Liability (Asset) and Related Ratios
- Schedule of Contributions

Fiduciary Net Position is the amount of assets available for benefits in the Pension Plan.

Total Pension Liability is the plan liability determined using assumptions listed in the Summary of Actuarial Assumptions.

Net Pension Liability (Asset) is the difference in the Total Pension Liability and the Fiduciary Net Position.

Summary of Key Actuarial Assumptions for GASB Statement No. 68

Reporting Date	June 30, 2015
Measurement Date	June 30, 2014
Actuarial Valuation Date	June 30, 2014
Actuarial cost method	Entry Age Normal
Amortization method	Level dollar
Asset valuation method	Fair market value
Inflation	3.0 percent
Salary increases	Graded salary ranges from 8.97 to 3.71 percent based on age, including inflation, averaging 4.25 percent
Investment rate of return	7.5 percent, net of investment expense, including inflation
Retirement age	Pattern of retirement determined by experience study
Mortality	Customized table based on actual experience including an adjustment for some anticipated improvement
Cost of living adjustments	2.5 percent, if provided

Employees Covered by Benefit Terms at June 30, 2014

Inactive employees or beneficiaries currently receiving benefits	0
Inactive employees entitled to but not yet receiving benefits	0
Active employees	1
Total	1

A complete summary of the census data utilized in this report is available upon request.

Contributions

June 30, 2014 employer contributions	$2,671
Employer contribution rate	9.30%

Schedule of Changes in Net Pension Liability (Asset)

	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (Asset) (a) - (b)
Balance at June 30, 2013	$28,338	$13,469	$14,869
Service cost	440		440
Interest	2,158		2,158
Differences between expected and actual experience	733		733
Contributions-employer		2,671	(2,671)
Contributions-employee		1,436	(1,436)
Net investment income		2,570	(2,570)
Benefit payments, including refunds of employee contributions	0	0	
Administrative expense		(34)	34
Net changes	3,331	6,643	(3,312)
Balance at June 30, 2014	$31,669	$20,112	$11,557

Sensitivity of Net Pension Liability (Asset) to Changes in the Discount Rate

The following represents the net pension liability (asset) calculated using the stated discount rate, as well as what the net pension liability (asset) would be if it were calculated using a discount rate that is 1-percentage-point lower or 1-percentage-point higher than the current rate:

	1% Decrease (6.50%)	Current Rate (7.50%)	1% Increase (8.50%)
Net Pension Liability (Asset)	$14,806	$11,557	$8,720

Pension Expense (Income) and Deferred Outflows/Inflows of Resources

	Pension Expense (Income)
Service cost	$440
Interest	2,158
Contributions-employees	(1,436)
Projected investment income	(1,163)
Recognition of experience (gain)/loss	244
Recognition of investment (gain)/loss	(281)
Administrative expense	34
Pension Expense (Income)	$(4)

For the year ended June 30, 2015, the recognized pension expense (income) is $(4). At June 30, 2015, deferred outflows of resources and deferred inflows of resources related to pensions are from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$489	$0
Changes of assumptions	0	0
Net difference between projected and actual earnings of pension plan investments	0	1,126
Total	$489	$1,126

Amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

Year ended June 30:	Outflows (a)	Inflows (b)	Amount Reported (a) + (b)
2015	$244	$(281)	$(37)
2016	244	(281)	(37)
2017	244	(281)	(37)
2018	0	(281)	(281)
2019	0	(281)	(281)
2020	0	0	0
Thereafter	0	0	0

Development of Deferred Outflows and Deferred Inflows

	Original Amount	Date Established	Original Period	Amount Recognized in Expense	Deferred Outflow Amount	Deferred Inflow Amount
Experience (gains) / losses	$733	6/30/2015	3	$244	$489	$(0)
		Total		$244	$489	$(0)
Investment (gains) / losses	$(1,407)	6/30/2015	5	$(281)	$0	$(1,126)
		Total		$(281)	$0	$(1,126)
Assumption changes	$0	6/30/2015	0	$0	$0	$(0)
		Total		$0	$0	$(0)

Schedule of Changes in the Net Pension Liability (Asset) and Related Ratios

for fiscal year ending June 30, 2015 (year shown is measurement date)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total Pension Liability										
Service cost	$440									
Interest	2,158									
Changes of benefit terms	0									
Differences between expected and actual experience	733									
Changes of assumptions	0									
Benefit Payments, including refunds of employee contributions	0									
Net Change in Total Pension Liability (Asset)	3,331									
Total Pension Liability (Asset) - beginning	28,338									
Total Pension Liability (Asset) - ending (a)	$31,669									
Plan Fiduciary Net Position										
Contributions - employer	$2,671									
Contributions - employee	1,436									
Net investment income	2,570									
Benefit Payments, including refunds of employee contributions	0									
Administrative expenses	(34)									
Other	0									
Net Change in Plan Fiduciary Net Position	$6,643									
Plan Fiduciary Net Position - beginning	13,469									
Plan Fiduciary Net Position - ending (b)	$20,112									
Net Pension Liability (Asset) - ending (a) - (b)	$11,557									
Plan Fiduciary Net Position as a % of the Total Pension Liability	63.51%									
Covered-employee payroll	$28,719									
Net Pension Liability (Asset) as a % of covered-employee payroll	40.24%									

Schedule of Contributions

	fiscal year ending June 30									
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Actuarially determined contribution	$2,671									
Contributions in relation to the actuarially determined contribution	2,671									
Contribution deficiency (excess)	$0									
Covered-employee payroll	$28,719									
Contributions as a percentage of covered-employee payroll	9.30%									

Notes to the Schedule Relating to the Actuarially Determined Contribution

Employer contributions for the year ended June 30, 2015 are based on the results of the July 1, 2013 actuarial valuation. Accordingly, governmental employers utilize the following notes to the schedule relating to the Actuarially Determined Contributions when presenting 2015. If 2015 is not presented, then a separate set of notes would apply.

Actuarial cost method	Frozen initial liability
Amortization method	Level dollar, closed (not to exceed 20 years)
Remaining amortization period	20 years
Asset valuation method	10-year smoothed within a 20 percent corridor to market value
Inflation	3.0 percent
Salary increases	Graded salary ranges from 8.97 to 3.71 percent based on age, including inflation, averaging 4.25 percent
Investment rate of return	7.5 percent, net of investment expense, including inflation
Retirement age	Pattern of retirement determined by experience study
Mortality	Customized table based on actual experience including an adjustment for some anticipated improvement
Cost of living adjustments	2.5 percent, if provided

Tennessee Consolidated Retirement System

DYERSBURG SUBURBAN UTILITY DISTRICT

GASB Statement No. 68

Actuarial Report
Reporting Date: June 30, 2015

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Accounting Governance Background

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Actuarial findings in this report are based on actuarial assumptions which reflect expected plan experience. Although the deviation of the actual future plan experience and the expected experience inherently creates some uncertainty with the results, in our opinion the actuarial assumptions reasonably reflect the expected future experience of the plan. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan’s funded status); and changes in plan provisions or applicable law. All of these factors can cause volatility in the Net Pension Liability (Asset) over time.

Data

The calculations shown in this report have been prepared using employee data (including covered-employee payroll) and plan documentation furnished by the Tennessee Consolidated Retirement System as of June 30, 2014. Plan asset information was furnished by the Tennessee Consolidated Retirement System for the twelve month period ending June 30, 2014. While we have not audited the data, we have reviewed it for reasonableness and internal consistency. We have made reasonable assumptions with regard to any incomplete records, and to the best of our knowledge, there are no material limitations to the data provided. A complete summary of the census data utilized in this report is available upon request.

Subsequent Events

We are unaware of any subsequent event after June 30, 2015 which would have a material effect on the results presented in this report.

Assumptions, Methods, and Procedures

The results presented in this report comply with the assumptions, methods, and procedures under Statement No. 68. The results are based on a June 30, 2014 actuarial valuation date, a measurement date of June 30, 2014 and a reporting date of June 30, 2015. All assumptions are selected by the TCRS Board of Trustees. Statement No. 68 mandates the use of the Entry Age Normal actuarial funding method.

Changes in Plan Provisions, Actuarial Assumptions, and Actuarial Methods

No changes were made to the plan provisions, actuarial assumptions and methods at the June 30, 2014 actuarial valuation date compared to the most recent funding valuation completed as of July 1, 2013.

Summaries of the plan provisions and actuarial assumptions can be found in the Basis for Valuation section of this report and in the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013.

Professional Qualifications

This report has been prepared under the supervision of Justin C. Thacker, a member of the American Academy of Actuaries, a Fellow of the Society of Actuaries, and a consulting actuary with Bryan, Pendleton, Swats and McAllister, LLC, who has met the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions herein. To the best of our knowledge this report has been prepared in accordance with generally accepted actuarial standards and our understanding of Government Accounting Standards Board Statement No. 68, including the overall appropriateness of the analysis, assumptions, and results and conforms to appropriate Standards of Practice as promulgated from time to time by the Actuarial Standards Board, which standards form the basis for the actuarial report. We are not aware of any direct or material indirect financial interest or relationship that could create, or appear to create, a conflict of interest that would impair the objectivity of our work. The undersigned are available to provide supplemental information or explanation.

Justin C. Thacker
Fellow, Society of Actuaries
Enrollment No. 14-6078
Phone 615.665.5387

October 15, 2015
Date

Tim C. Lavender
Fellow, Society of Actuaries
Enrollment No. 14-6745
Phone 615.665.5305

October 15, 2015
Date

Summary of Plan Provisions

The actuarial valuation includes all benefits provided by the Tennessee Consolidated Retirement System to the current active and inactive plan members. Benefit provisions include retirement, death and disability benefits. If applicable, post-retirement cost of living adjustments are included. Please refer to the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013 for a complete summary of plan provisions.

Summary of Actuarial Assumptions and Methods

Investment Rate of Return

7.5 percent per annum, compounded annually

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees in conjunction with the June 30, 2012 actuarial experience study by considering the following three techniques: (1) the 25-year historical return of the TCRS at June 30, 2012, (2) the historical market returns of asset classes from 1926 to 2012 using the TCRS investment policy asset allocation, and (3) capital market projections that were utilized as a building-block method in which best-estimate ranges of expected future real rate of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. Four sources of capital market projections were blended and utilized in the third technique. The blended capital market projection established the long-term expected rate of return by weighting the expected future real rate of return by the target asset allocation percentage and by adding inflation of 3 percent. The target allocation and best estimates of arithmetic real rates of return for each major asset class are summarized in the following table:

Asset Class	**Long-Term Expected Real Rate of Return**	**Target Allocations**
U.S. equity	6.46%	33%
Developed market international equity	6.26%	17%
Emerging market international equity	6.40%	5%
Private equity and strategic lending	4.61%	8%
U.S. fixed income	0.98%	29%
Real estate	4.73%	7%
Short-term securities	0.00%	1%
		100%

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees as 7.5 percent based on a blending of the three techniques described above.

Discount Rate

7.5 percent per annum, compounded annually

Paragraph 29 of Statement No. 68 provides for an alternative method to be used other than the projection of the pension plan's fiduciary net position based on projected contributions, benefit payments and investment earnings. The current contribution policy requires contributions of the normal cost plus a closed amortization of the unfunded liabilities (not to exceed 30 years from when the unfunded liability was created). In addition, the employer has a documented history of contributing 100 percent of the actuarially determined contribution requirement. The discount rate utilized assumes that employee contributions will be made at the current applicable rate and that contributions from the employer will be made at the actuarially determined contribution rate pursuant to an actuarial valuation in accordance with the pension funding policy of the TCRS Board of Trustees and as required to be paid by state statute. Based on these assumptions and the actuarial methodology adopted, the employer's fiduciary net position is expected to remain positive and to be available to make projected future benefit payments of current active and inactive members and to cover administrative expenses. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Actuarial Valuation Method

All liabilities and normal costs shown in this report are calculated based on the Entry Age Normal method.

Asset Valuation Method

Fair Market Value

Amortization Method for GASB Statement No. 68

Level Dollar

Amortization Period for GASB Statement No. 68

Investment gains or losses are amortized over five years. Experience gains or losses and changes in actuarial assumptions are amortized over the average working lifetime of all participants. Plan amendments are recognized immediately.

Additional Assumptions

Please refer to the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013 for a complete summary of actuarial assumptions.

Selection of Assumptions

The TCRS Board of Trustees selected the assumptions described above based on the review of plan experience in conjunction with an experience study conducted as of June 30, 2012. A complete plan experience study is conducted every four years.

GASB Statement No. 68

This section presents specific information required under Statement No. 68. The information in this report is to satisfy the employer reporting for the pension plan. This section contains the following:

- Summary of Key Actuarial Assumptions for Statement No. 68
- Employees Covered by Benefit Terms at June 30, 2014
- Contributions
- Schedule of Changes in the Net Pension Liability (Asset)
- Sensitivity of Net Pension Liability (Asset) to Changes in the Discount Rate
- Pension Expense (Income) and Deferred Outflows/Inflows of Resources
- Schedule of Changes in Net Pension Liability (Asset) and Related Ratios
- Schedule of Contributions

Fiduciary Net Position is the amount of assets available for benefits in the Pension Plan.

Total Pension Liability is the plan liability determined using assumptions listed in the Summary of Actuarial Assumptions.

Net Pension Liability (Asset) is the difference in the Total Pension Liability and the Fiduciary Net Position.

Summary of Key Actuarial Assumptions for GASB Statement No. 68

Reporting Date	June 30, 2015
Measurement Date	June 30, 2014
Actuarial Valuation Date	June 30, 2014
Actuarial cost method	Entry Age Normal
Amortization method	Level dollar
Asset valuation method	Fair market value
Inflation	3.0 percent
Salary increases	Graded salary ranges from 8.97 to 3.71 percent based on age, including inflation, averaging 4.25 percent
Investment rate of return	7.5 percent, net of investment expense, including inflation
Retirement age	Pattern of retirement determined by experience study
Mortality	Customized table based on actual experience including an adjustment for some anticipated improvement
Cost of living adjustments	2.5 percent, if provided

Employees Covered by Benefit Terms at June 30, 2014

Inactive employees or beneficiaries currently receiving benefits	1
Inactive employees entitled to but not yet receiving benefits	0
Active employees	3
Total	4

A complete summary of the census data utilized in this report is available upon request.

Contributions

June 30, 2014 employer contributions	$21,835
Employer contribution rate	13.62%

Schedule of Changes in Net Pension Liability (Asset)

	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (Asset) (a) - (b)
Balance at June 30, 2013	$460,743	$444,033	$16,710
Service cost	12,298		12,298
Interest	33,695		33,695
Differences between expected and actual experience	(74,646)		(74,646)
Contributions-employer		21,835	(21,835)
Contributions-employee		8,016	(8,016)
Net investment income		72,132	(72,132)
Benefit payments, including refunds of employee contributions	(47,550)	(47,550)	
Administrative expense		(147)	147
Net changes	(76,203)	54,286	(130,489)
Balance at June 30, 2014	$384,540	$498,319	$(113,779)

Sensitivity of Net Pension Liability (Asset) to Changes in the Discount Rate

The following represents the net pension liability (asset) calculated using the stated discount rate, as well as what the net pension liability (asset) would be if it were calculated using a discount rate that is 1-percentage-point lower or 1-percentage-point higher than the current rate:

	1% Decrease (6.50%)	Current Rate (7.50%)	1% Increase (8.50%)
Net Pension Liability (Asset)	$(56,484)	$(113,779)	$(162,505)

Pension Expense (Income) and Deferred Outflows/Inflows of Resources

	Pension Expense (Income)
Service cost	$12,298
Interest	33,695
Contributions-employees	(8,016)
Projected investment income	(32,633)
Recognition of experience (gain)/loss	(8,294)
Recognition of investment (gain)/loss	(7,900)
Administrative expense	147
Pension Expense (Income)	$(10,703)

For the year ended June 30, 2015, the recognized pension expense (income) is $(10,703). At June 30, 2015, deferred outflows of resources and deferred inflows of resources related to pensions are from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$0	$66,352
Changes of assumptions	0	0
Net difference between projected and actual earnings of pension plan investments	0	31,599
Total	$0	$97,951

Amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

Year ended June 30:	Outflows (a)	Inflows (b)	Amount Reported (a) + (b)
2015	$0	$(16,194)	$(16,194)
2016	0	(16,194)	(16,194)
2017	0	(16,194)	(16,194)
2018	0	(16,194)	(16,194)
2019	0	(16,194)	(16,194)
2020	0	(8,294)	(8,294)
Thereafter	0	(24,882)	(24,882)

Development of Deferred Outflows and Deferred Inflows

	Original Amount	Date Established	Original Period	Amount Recognized in Expense	Deferred Outflow Amount	Deferred Inflow Amount
Experience (gains) / losses	$(74,646)	6/30/2015	9	$(8,294)	$0	$(66,352)
		Total		$(8,294)	$0	$(66,352)
Investment (gains) / losses	$(39,499)	6/30/2015	5	$(7,900)	$0	$(31,599)
		Total		$(7,900)	$0	$(31,599)
Assumption changes	$0	6/30/2015	0	$0	$0	$(0)
		Total		$0	$0	$(0)

Schedule of Changes in the Net Pension Liability (Asset) and Related Ratios

for fiscal year ending June 30, 2015 (year shown is measurement date)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total Pension Liability										
Service cost	$12,298									
Interest	33,695									
Changes of benefit terms	0									
Differences between expected and actual experience	(74,646)									
Changes of assumptions	0									
Benefit Payments, including refunds of employee contributions	(47,550)									
Net Change in Total Pension Liability (Asset)	(76,203)									
Total Pension Liability (Asset) - beginning	460,743									
Total Pension Liability (Asset) - ending (a)	$384,540									
Plan Fiduciary Net Position										
Contributions - employer	$21,835									
Contributions - employee	8,016									
Net investment income	72,132									
Benefit Payments, including refunds of employee contributions	(47,550)									
Administrative expenses	(147)									
Other	0									
Net Change in Plan Fiduciary Net Position	$54,286									
Plan Fiduciary Net Position - beginning	444,033									
Plan Fiduciary Net Position - ending (b)	$498,319									
Net Pension Liability (Asset) - ending (a) - (b)	$(113,779)									
Plan Fiduciary Net Position as a % of the Total Pension Liability	129.59%									
Covered-employee payroll	$160,318									
Net Pension Liability (Asset) as a % of covered-employee payroll	(70.97%)									

Schedule of Contributions

	fiscal year ending June 30									
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Actuarially determined contribution	$21,835									
Contributions in relation to the actuarially determined contribution	21,835									
Contribution deficiency (excess)	$0									
Covered-employee payroll	$160,318									
Contributions as a percentage of covered-employee payroll	13.62%									

Notes to the Schedule Relating to the Actuarially Determined Contribution

Employer contributions for the year ended June 30, 2015 are based on the results of the July 1, 2013 actuarial valuation. Accordingly, governmental employers utilize the following notes to the schedule relating to the Actuarially Determined Contributions when presenting 2015. If 2015 is not presented, then a separate set of notes would apply.

Actuarial cost method	Frozen initial liability
Amortization method	Level dollar, closed (not to exceed 20 years)
Remaining amortization period	8 years
Asset valuation method	10-year smoothed within a 20 percent corridor to market value
Inflation	3.0 percent
Salary increases	Graded salary ranges from 8.97 to 3.71 percent based on age, including inflation, averaging 4.25 percent
Investment rate of return	7.5 percent, net of investment expense, including inflation
Retirement age	Pattern of retirement determined by experience study
Mortality	Customized table based on actual experience including an adjustment for some anticipated improvement
Cost of living adjustments	2.5 percent, if provided

Tennessee Consolidated Retirement System

CARROLL COUNTY 911 EMERGENCY DISTRICT

GASB Statement No. 68

Actuarial Report
Reporting Date: June 30, 2015

Table of Contents

Accounting Governance Background

Statement No. 27 of the Governmental Accounting Standards Board was amended by Statement No. 68 of the Governmental Accounting Standards Board. Statement No. 68 became effective for employer financial statements for the fiscal year beginning after June 15, 2014. Statement No. 68 establishes financial reporting standards for state and local government employers with pension plans that are administered through trusts or equivalent arrangements. The objective of this statement is to improve the usefulness of the information included in employer financial statements.

Purpose and Use

This report has been prepared exclusively for the Tennessee Consolidated Retirement System. Actuarial computations under Statement No. 68 are for purposes of fulfilling employer governmental accounting requirements, and may not be appropriate for other purposes. The calculations reported herein have been made on a basis consistent with our understanding of the statement. Bryan, Pendleton, Swats & McAllister, LLC is not responsible for consequences resulting from the use of any part of this report without prior authorization or approval. This report provides actuarial advice and does not constitute legal, accounting, tax or investment advice. Determinations for other purposes, such as funding, bond ratings, or judging benefit security, may be significantly different from the results shown in this report.

Actuarial findings in this report are based on actuarial assumptions which reflect expected plan experience. Although the deviation of the actual future plan experience and the expected experience inherently creates some uncertainty with the results, in our opinion the actuarial assumptions reasonably reflect the expected future experience of the plan. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. All of these factors can cause volatility in the Net Pension Liability (Asset) over time.

Data

The calculations shown in this report have been prepared using employee data (including covered-employee payroll) and plan documentation furnished by the Tennessee Consolidated Retirement System as of June 30, 2014. Plan asset information was furnished by the Tennessee Consolidated Retirement System for the twelve month period ending June 30, 2014. While we have not audited the data, we have reviewed it for reasonableness and internal consistency. We have made reasonable assumptions with regard to any incomplete records, and to the best of our knowledge, there are no material limitations to the data provided. A complete summary of the census data utilized in this report is available upon request.

Subsequent Events

We are unaware of any subsequent event after June 30, 2015 which would have a material effect on the results presented in this report.

Assumptions, Methods, and Procedures

The results presented in this report comply with the assumptions, methods, and procedures under Statement No. 68. The results are based on a June 30, 2014 actuarial valuation date, a measurement date of June 30, 2014 and a reporting date of June 30, 2015. All assumptions are selected by the TCRS Board of Trustees. Statement No. 68 mandates the use of the Entry Age Normal actuarial funding method.

Changes in Plan Provisions, Actuarial Assumptions, and Actuarial Methods

No changes were made to the plan provisions, actuarial assumptions and methods at the June 30, 2014 actuarial valuation date compared to the most recent funding valuation completed as of July 1, 2013.

Summaries of the plan provisions and actuarial assumptions can be found in the Basis for Valuation section of this report and in the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013.

Professional Qualifications

This report has been prepared under the supervision of Justin C. Thacker, a member of the American Academy of Actuaries, a Fellow of the Society of Actuaries, and a consulting actuary with Bryan, Pendleton, Swats and McAllister, LLC, who has met the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions herein. To the best of our knowledge this report has been prepared in accordance with generally accepted actuarial standards and our understanding of Government Accounting Standards Board Statement No. 68, including the overall appropriateness of the analysis, assumptions, and results and conforms to appropriate Standards of Practice as promulgated from time to time by the Actuarial Standards Board, which standards form the basis for the actuarial report. We are not aware of any direct or material indirect financial interest or relationship that could create, or appear to create, a conflict of interest that would impair the objectivity of our work. The undersigned are available to provide supplemental information or explanation.

Justin Thacker | October 15, 2015

Justin C. Thacker
Fellow, Society of Actuaries
Enrollment No. 14-6078
Phone 615.665.5387

Date

Tim Lavender | October 15, 2015

Tim C. Lavender
Fellow, Society of Actuaries
Enrollment No. 14-6745
Phone 615.665.5305

Date

Summary of Plan Provisions

The actuarial valuation includes all benefits provided by the Tennessee Consolidated Retirement System to the current active and inactive plan members. Benefit provisions include retirement, death and disability benefits. If applicable, post-retirement cost of living adjustments are included. Please refer to the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013 for a complete summary of plan provisions.

Summary of Actuarial Assumptions and Methods

Investment Rate of Return

7.5 percent per annum, compounded annually

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees in conjunction with the June 30, 2012 actuarial experience study by considering the following three techniques: (1) the 25-year historical return of the TCRS at June 30, 2012, (2) the historical market returns of asset classes from 1926 to 2012 using the TCRS investment policy asset allocation, and (3) capital market projections that were utilized as a building-block method in which best-estimate ranges of expected future real rate of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. Four sources of capital market projections were blended and utilized in the third technique. The blended capital market projection established the long-term expected rate of return by weighting the expected future real rate of return by the target asset allocation percentage and by adding inflation of 3 percent. The target allocation and best estimates of arithmetic real rates of return for each major asset class are summarized in the following table:

Asset Class	Long-Term Expected Real Rate of Return	Target Allocations
U.S. equity	6.46%	33%
Developed market international equity	6.26%	17%
Emerging market international equity	6.40%	5%
Private equity and strategic lending	4.61%	8%
U.S. fixed income	0.98%	29%
Real estate	4.73%	7%
Short-term securities	0.00%	1%
		100%

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees as 7.5 percent based on a blending of the three techniques described above.

Discount Rate

7.5 percent per annum, compounded annually

Paragraph 29 of Statement No. 68 provides for an alternative method to be used other than the projection of the pension plan's fiduciary net position based on projected contributions, benefit payments and investment earnings. The current contribution policy requires contributions of the normal cost plus a closed amortization of the unfunded liabilities (not to exceed 30 years from when the unfunded liability was created). In addition, the employer has a documented history of contributing 100 percent of the actuarially determined contribution requirement. The discount rate utilized assumes that employee contributions will be made at the current applicable rate and that contributions from the employer will be made at the actuarially determined contribution rate pursuant to an actuarial valuation in accordance with the pension funding policy of the TCRS Board of Trustees and as required to be paid by state statute. Based on these assumptions and the actuarial methodology adopted, the employer's fiduciary net position is expected to remain positive and to be available to make projected future benefit payments of current active and inactive members and to cover administrative expenses. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Actuarial Valuation Method

All liabilities and normal costs shown in this report are calculated based on the Entry Age Normal method.

Asset Valuation Method

Fair Market Value

Amortization Method for GASB Statement No. 68

Level Dollar

Amortization Period for GASB Statement No. 68

Investment gains or losses are amortized over five years. Experience gains or losses and changes in actuarial assumptions are amortized over the average working lifetime of all participants. Plan amendments are recognized immediately.

Additional Assumptions

Please refer to the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013 for a complete summary of actuarial assumptions.

Selection of Assumptions

The TCRS Board of Trustees selected the assumptions described above based on the review of plan experience in conjunction with an experience study conducted as of June 30, 2012. A complete plan experience study is conducted every four years.

GASB Statement No. 68

This section presents specific information required under Statement No. 68. The information in this report is to satisfy the employer reporting for the pension plan. This section contains the following:

- Summary of Key Actuarial Assumptions for Statement No. 68
- Employees Covered by Benefit Terms at June 30, 2014
- Contributions
- Schedule of Changes in the Net Pension Liability (Asset)
- Sensitivity of Net Pension Liability (Asset) to Changes in the Discount Rate
- Pension Expense (Income) and Deferred Outflows/Inflows of Resources
- Schedule of Changes in Net Pension Liability (Asset) and Related Ratios
- Schedule of Contributions

Fiduciary Net Position is the amount of assets available for benefits in the Pension Plan.

Total Pension Liability is the plan liability determined using assumptions listed in the Summary of Actuarial Assumptions.

Net Pension Liability (Asset) is the difference in the Total Pension Liability and the Fiduciary Net Position.

Summary of Key Actuarial Assumptions for GASB Statement No. 68

Reporting Date	June 30, 2015
Measurement Date	June 30, 2014
Actuarial Valuation Date	June 30, 2014
Actuarial cost method	Entry Age Normal
Amortization method	Level dollar
Asset valuation method	Fair market value
Inflation	3.0 percent
Salary increases	Graded salary ranges from 8.97 to 3.71 percent based on age, including inflation, averaging 4.25 percent
Investment rate of return	7.5 percent, net of investment expense, including inflation
Retirement age	Pattern of retirement determined by experience study
Mortality	Customized table based on actual experience including an adjustment for some anticipated improvement
Cost of living adjustments	2.5 percent, if provided

Employees Covered by Benefit Terms at June 30, 2014

Inactive employees or beneficiaries currently receiving benefits	2
Inactive employees entitled to but not yet receiving benefits	0
Active employees	2
Total	4

A complete summary of the census data utilized in this report is available upon request.

Contributions

June 30, 2014 employer contributions	$8,136
Employer contribution rate	11.76%

Schedule of Changes in Net Pension Liability (Asset)

	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (Asset) (a) - (b)
Balance at June 30, 2013	$222,563	$234,077	$(11,514)
Service cost	546		546
Interest	16,138		16,138
Differences between expected and actual experience	(1,891)		(1,891)
Contributions-employer		8,136	(8,136)
Contributions-employee		3,459	(3,459)
Net investment income		38,444	(38,444)
Benefit payments, including refunds of employee contributions	(15,882)	(15,882)	
Administrative expense		(83)	83
Net changes	(1,089)	34,074	(35,163)
Balance at June 30, 2014	$221,474	$268,151	$(46,677)

Sensitivity of Net Pension Liability (Asset) to Changes in the Discount Rate

The following represents the net pension liability (asset) calculated using the stated discount rate, as well as what the net pension liability (asset) would be if it were calculated using a discount rate that is 1-percentage-point lower or 1-percentage-point higher than the current rate:

	1% Decrease (6.50%)	Current Rate (7.50%)	1% Increase (8.50%)
Net Pension Liability (Asset)	$(19,738)	$(46,677)	$(68,466)

Pension Expense (Income) and Deferred Outflows/Inflows of Resources

	Pension Expense (Income)
Service cost	$546
Interest	16,138
Contributions-employees	(3,459)
Projected investment income	(17,392)
Recognition of experience (gain)/loss	(315)
Recognition of investment (gain)/loss	(4,210)
Administrative expense	83
Pension Expense (Income)	$(8,609)

For the year ended June 30, 2015, the recognized pension expense (income) is $(8,609). At June 30, 2015, deferred outflows of resources and deferred inflows of resources related to pensions are from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$0	$1,576
Changes of assumptions	0	0
Net difference between projected and actual earnings of pension plan investments	0	16,842
Total	$0	$18,418

Amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

Year ended June 30:	Outflows (a)	Inflows (b)	Amount Reported (a) + (b)
2015	$0	$(4,525)	$(4,525)
2016	0	(4,525)	(4,525)
2017	0	(4,525)	(4,525)
2018	0	(4,525)	(4,525)
2019	0	(4,525)	(4,525)
2020	0	(315)	(315)
Thereafter	0	0	0

Development of Deferred Outflows and Deferred Inflows

	Original Amount	Date Established	Original Period	Amount Recognized in Expense	Deferred Outflow Amount	Deferred Inflow Amount
Experience (gains) / losses	$(1,891)	6/30/2015	6	$(315)	$0	$(1,576)
		Total		$(315)	$0	$(1,576)
Investment (gains) / losses	$(21,052)	6/30/2015	5	$(4,210)	$0	$(16,842)
		Total		$(4,210)	$0	$(16,842)
Assumption changes	$0	6/30/2015	0	$0	$0	$(0)
		Total		$0	$0	$(0)

Schedule of Changes in the Net Pension Liability (Asset) and Related Ratios

for fiscal year ending June 30, 2015 (year shown is measurement date)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total Pension Liability										
Service cost	$546									
Interest	16,138									
Changes of benefit terms	0									
Differences between expected and actual experience	(1,891)									
Changes of assumptions	0									
Benefit Payments, including refunds of employee contributions	(15,882)									
Net Change in Total Pension Liability (Asset)	(1,089)									
Total Pension Liability (Asset) - beginning	222,563									
Total Pension Liability (Asset) - ending (a)	$221,474									
Plan Fiduciary Net Position										
Contributions - employer	$8,136									
Contributions - employee	3,459									
Net investment income	38,444									
Benefit Payments, including refunds of employee contributions	(15,882)									
Administrative expenses	(83)									
Other	0									
Net Change in Plan Fiduciary Net Position	$34,074									
Plan Fiduciary Net Position - beginning	234,077									
Plan Fiduciary Net Position - ending (b)	$268,151									
Net Pension Liability (Asset) - ending (a) - (b)	$(46,677)									
Plan Fiduciary Net Position as a % of the Total Pension Liability	121.08%									
Covered-employee payroll	$69,189									
Net Pension Liability (Asset) as a % of covered-employee payroll	(67.46%)									

Schedule of Contributions

	fiscal year ending June 30									
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Actuarially determined contribution	$8,136									
Contributions in relation to the actuarially determined contribution	8,136									
Contribution deficiency (excess)	$0									
Covered-employee payroll	$69,189									
Contributions as a percentage of covered-employee payroll	11.76%									

Notes to the Schedule Relating to the Actuarially Determined Contribution

Employer contributions for the year ended June 30, 2015 are based on the results of the July 1, 2013 actuarial valuation. Accordingly, governmental employers utilize the following notes to the schedule relating to the Actuarially Determined Contributions when presenting 2015. If 2015 is not presented, then a separate set of notes would apply.

Actuarial cost method	Frozen initial liability
Amortization method	Level dollar, closed (not to exceed 20 years)
Remaining amortization period	4 years
Asset valuation method	10-year smoothed within a 20 percent corridor to market value
Inflation	3.0 percent
Salary increases	Graded salary ranges from 8.97 to 3.71 percent based on age, including inflation, averaging 4.25 percent
Investment rate of return	7.5 percent, net of investment expense, including inflation
Retirement age	Pattern of retirement determined by experience study
Mortality	Customized table based on actual experience including an adjustment for some anticipated improvement
Cost of living adjustments	2.5 percent, if provided

Tennessee Consolidated Retirement System

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GASB Statement No. 68

Actuarial Report
Reporting Date: June 30, 2015

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Accounting Governance Background

Statement No. 27 of the Governmental Accounting Standards Board was amended by Statement No. 68 of the Governmental Accounting Standards Board. Statement No. 68 became effective for employer financial statements for the fiscal year beginning after June 15, 2014. Statement No. 68 establishes financial reporting standards for state and local government employers with pension plans that are administered through trusts or equivalent arrangements. The objective of this statement is to improve the usefulness of the information included in employer financial statements.

Purpose and Use

This report has been prepared exclusively for the Tennessee Consolidated Retirement System. Actuarial computations under Statement No. 68 are for purposes of fulfilling employer governmental accounting requirements, and may not be appropriate for other purposes. The calculations reported herein have been made on a basis consistent with our understanding of the statement. Bryan, Pendleton, Swats & McAllister, LLC is not responsible for consequences resulting from the use of any part of this report without prior authorization or approval. This report provides actuarial advice and does not constitute legal, accounting, tax or investment advice. Determinations for other purposes, such as funding, bond ratings, or judging benefit security, may be significantly different from the results shown in this report.

Actuarial findings in this report are based on actuarial assumptions which reflect expected plan experience. Although the deviation of the actual future plan experience and the expected experience inherently creates some uncertainty with the results, in our opinion the actuarial assumptions reasonably reflect the expected future experience of the plan. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. All of these factors can cause volatility in the Net Pension Liability (Asset) over time.

Data

The calculations shown in this report have been prepared using employee data (including covered-employee payroll) and plan documentation furnished by the Tennessee Consolidated Retirement System as of June 30, 2014. Plan asset information was furnished by the Tennessee Consolidated Retirement System for the twelve month period ending June 30, 2014. While we have not audited the data, we have reviewed it for reasonableness and internal consistency. We have made reasonable assumptions with regard to any incomplete records, and to the best of our knowledge, there are no material limitations to the data provided. A complete summary of the census data utilized in this report is available upon request.

Subsequent Events

We are unaware of any subsequent event after June 30, 2015 which would have a material effect on the results presented in this report.

Assumptions, Methods, and Procedures

The results presented in this report comply with the assumptions, methods, and procedures under Statement No. 68. The results are based on a June 30, 2014 actuarial valuation date, a measurement date of June 30, 2014 and a reporting date of June 30, 2015. All assumptions are selected by the TCRS Board of Trustees. Statement No. 68 mandates the use of the Entry Age Normal actuarial funding method.

Changes in Plan Provisions, Actuarial Assumptions, and Actuarial Methods

No changes were made to the plan provisions, actuarial assumptions and methods at the June 30, 2014 actuarial valuation date compared to the most recent funding valuation completed as of July 1, 2013.

Summaries of the plan provisions and actuarial assumptions can be found in the Basis for Valuation section of this report and in the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013.

Professional Qualifications

This report has been prepared under the supervision of Justin C. Thacker, a member of the American Academy of Actuaries, a Fellow of the Society of Actuaries, and a consulting actuary with Bryan, Pendleton, Swats and McAllister, LLC, who has met the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions herein. To the best of our knowledge this report has been prepared in accordance with generally accepted actuarial standards and our understanding of Government Accounting Standards Board Statement No. 68, including the overall appropriateness of the analysis, assumptions, and results and conforms to appropriate Standards of Practice as promulgated from time to time by the Actuarial Standards Board, which standards form the basis for the actuarial report. We are not aware of any direct or material indirect financial interest or relationship that could create, or appear to create, a conflict of interest that would impair the objectivity of our work. The undersigned are available to provide supplemental information or explanation.

Justin C. Thacker Fellow, Society of Actuaries Enrollment No. 14-6078 Phone 615.665.5387	October 15, 2015 Date
Tim C. Lavender Fellow, Society of Actuaries Enrollment No. 14-6745 Phone 615.665.5305	October 15, 2015 Date

Summary of Plan Provisions

The actuarial valuation includes all benefits provided by the Tennessee Consolidated Retirement System to the current active and inactive plan members. Benefit provisions include retirement, death and disability benefits. If applicable, post-retirement cost of living adjustments are included. Please refer to the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013 for a complete summary of plan provisions.

Summary of Actuarial Assumptions and Methods

Investment Rate of Return

7.5 percent per annum, compounded annually

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees in conjunction with the June 30, 2012 actuarial experience study by considering the following three techniques: (1) the 25-year historical return of the TCRS at June 30, 2012, (2) the historical market returns of asset classes from 1926 to 2012 using the TCRS investment policy asset allocation, and (3) capital market projections that were utilized as a building-block method in which best-estimate ranges of expected future real rate of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. Four sources of capital market projections were blended and utilized in the third technique. The blended capital market projection established the long-term expected rate of return by weighting the expected future real rate of return by the target asset allocation percentage and by adding inflation of 3 percent. The target allocation and best estimates of arithmetic real rates of return for each major asset class are summarized in the following table:

Asset Class	**Long-Term Expected Real Rate of Return**	**Target Allocations**
U.S. equity	6.46%	33%
Developed market international equity	6.26%	17%
Emerging market international equity	6.40%	5%
Private equity and strategic lending	4.61%	8%
U.S. fixed income	0.98%	29%
Real estate	4.73%	7%
Short-term securities	0.00%	1%
		100%

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees as 7.5 percent based on a blending of the three techniques described above.

Discount Rate

7.5 percent per annum, compounded annually

Paragraph 29 of Statement No. 68 provides for an alternative method to be used other than the projection of the pension plan's fiduciary net position based on projected contributions, benefit payments and investment earnings. The current contribution policy requires contributions of the normal cost plus a closed amortization of the unfunded liabilities (not to exceed 30 years from when the unfunded liability was created). In addition, the employer has a documented history of contributing 100 percent of the actuarially determined contribution requirement. The discount rate utilized assumes that employee contributions will be made at the current applicable rate and that contributions from the employer will be made at the actuarially determined contribution rate pursuant to an actuarial valuation in accordance with the pension funding policy of the TCRS Board of Trustees and as required to be paid by state statute. Based on these assumptions and the actuarial methodology adopted, the employer's fiduciary net position is expected to remain positive and to be available to make projected future benefit payments of current active and inactive members and to cover administrative expenses. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Actuarial Valuation Method

All liabilities and normal costs shown in this report are calculated based on the Entry Age Normal method.

Asset Valuation Method

Fair Market Value

Amortization Method for GASB Statement No. 68

Level Dollar

Amortization Period for GASB Statement No. 68

Investment gains or losses are amortized over five years. Experience gains or losses and changes in actuarial assumptions are amortized over the average working lifetime of all participants. Plan amendments are recognized immediately.

Additional Assumptions

Please refer to the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013 for a complete summary of actuarial assumptions.

Selection of Assumptions

The TCRS Board of Trustees selected the assumptions described above based on the review of plan experience in conjunction with an experience study conducted as of June 30, 2012. A complete plan experience study is conducted every four years.

GASB Statement No. 68

This section presents specific information required under Statement No. 68. The information in this report is to satisfy the employer reporting for the pension plan. This section contains the following:

- Summary of Key Actuarial Assumptions for Statement No. 68
- Employees Covered by Benefit Terms at June 30, 2014
- Contributions
- Schedule of Changes in the Net Pension Liability (Asset)
- Sensitivity of Net Pension Liability (Asset) to Changes in the Discount Rate
- Pension Expense (Income) and Deferred Outflows/Inflows of Resources
- Schedule of Changes in Net Pension Liability (Asset) and Related Ratios
- Schedule of Contributions

Fiduciary Net Position is the amount of assets available for benefits in the Pension Plan.

Total Pension Liability is the plan liability determined using assumptions listed in the Summary of Actuarial Assumptions.

Net Pension Liability (Asset) is the difference in the Total Pension Liability and the Fiduciary Net Position.

Summary of Key Actuarial Assumptions for GASB Statement No. 68

Reporting Date	June 30, 2015
Measurement Date	June 30, 2014
Actuarial Valuation Date	June 30, 2014
Actuarial cost method	Entry Age Normal
Amortization method	Level dollar
Asset valuation method	Fair market value
Inflation	3.0 percent
Salary increases	Graded salary ranges from 8.97 to 3.71 percent based on age, including inflation, averaging 4.25 percent
Investment rate of return	7.5 percent, net of investment expense, including inflation
Retirement age	Pattern of retirement determined by experience study
Mortality	Customized table based on actual experience including an adjustment for some anticipated improvement
Cost of living adjustments	2.5 percent, if provided

Employees Covered by Benefit Terms at June 30, 2014

Inactive employees or beneficiaries currently receiving benefits	0
Inactive employees entitled to but not yet receiving benefits	2
Active employees	3
Total	5

A complete summary of the census data utilized in this report is available upon request.

Contributions

June 30, 2014 employer contributions	$4,551
Employer contribution rate	3.54%

Schedule of Changes in Net Pension Liability (Asset)

	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (Asset) (a) - (b)
Balance at June 30, 2013	$51,960	$41,226	$10,734
Service cost	7,072		7,072
Interest	4,352		4,352
Differences between expected and actual experience	4,696		4,696
Contributions-employer		4,551	(4,551)
Contributions-employee		6,435	(6,435)
Net investment income		7,569	(7,569)
Benefit payments, including refunds of employee contributions	(2,008)	(2,008)	
Administrative expense		(102)	102
Net changes	14,112	16,445	(2,333)
Balance at June 30, 2014	$66,072	$57,671	$8,401

Sensitivity of Net Pension Liability (Asset) to Changes in the Discount Rate

The following represents the net pension liability (asset) calculated using the stated discount rate, as well as what the net pension liability (asset) would be if it were calculated using a discount rate that is 1-percentage-point lower or 1-percentage-point higher than the current rate:

	1% Decrease (6.50%)	Current Rate (7.50%)	1% Increase (8.50%)
Net Pension Liability (Asset)	$15,897	$8,401	$1,846

Pension Expense (Income) and Deferred Outflows/Inflows of Resources

	Pension Expense (Income)
Service cost	$7,072
Interest	4,352
Contributions-employees	(6,435)
Projected investment income	(3,425)
Recognition of experience (gain)/loss	939
Recognition of investment (gain)/loss	(829)
Administrative expense	102
Pension Expense (Income)	$1,776

For the year ended June 30, 2015, the recognized pension expense (income) is $1,776. At June 30, 2015, deferred outflows of resources and deferred inflows of resources related to pensions are from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$3,757	$0
Changes of assumptions	0	0
Net difference between projected and actual earnings of pension plan investments	0	3,315
Total	$3,757	$3,315

Amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

Year ended June 30:	Outflows (a)	Inflows (b)	Amount Reported (a) + (b)
2015	$939	$(829)	$110
2016	939	(829)	110
2017	939	(829)	110
2018	939	(829)	110
2019	939	(829)	110
2020	0	0	0
Thereafter	0	0	0

Development of Deferred Outflows and Deferred Inflows

	Original Amount	Date Established	Original Period	Amount Recognized in Expense	Deferred Outflow Amount	Deferred Inflow Amount
Experience (gains) / losses	$4,696	6/30/2015	5	$939	$3,757	$(0)
		Total		$939	$3,757	$(0)
Investment (gains) / losses	$(4,144)	6/30/2015	5	$(829)	$0	$(3,315)
		Total		$(829)	$0	$(3,315)
Assumption changes	$0	6/30/2015	0	$0	$0	$(0)
		Total		$0	$0	$(0)

Schedule of Changes in the Net Pension Liability (Asset) and Related Ratios

for fiscal year ending June 30, 2015 (year shown is measurement date)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total Pension Liability										
Service cost	$7,072									
Interest	4,352									
Changes of benefit terms	0									
Differences between expected and actual experience	4,696									
Changes of assumptions	0									
Benefit Payments, including refunds of employee contributions	(2,008)									
Net Change in Total Pension Liability (Asset)	14,112									
Total Pension Liability (Asset) - beginning	51,960									
Total Pension Liability (Asset) - ending (a)	$66,072									
Plan Fiduciary Net Position										
Contributions - employer	$4,551									
Contributions - employee	6,435									
Net investment income	7,569									
Benefit Payments, including refunds of employee contributions	(2,008)									
Administrative expenses	(102)									
Other	0									
Net Change in Plan Fiduciary Net Position	$16,445									
Plan Fiduciary Net Position - beginning	41,226									
Plan Fiduciary Net Position - ending (b)	$57,671									
Net Pension Liability (Asset) - ending (a) - (b)	$8,401									
Plan Fiduciary Net Position as a % of the Total Pension Liability	87.29%									
Covered-employee payroll	$128,700									
Net Pension Liability (Asset) as a % of covered-employee payroll	6.53%									

Schedule of Contributions

	fiscal year ending June 30									
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Actuarially determined contribution	$4,551									
Contributions in relation to the actuarially determined contribution	4,551									
Contribution deficiency (excess)	$0									
Covered-employee payroll	$128,700									
Contributions as a percentage of covered-employee payroll	3.54%									

Notes to the Schedule Relating to the Actuarially Determined Contribution

Employer contributions for the year ended June 30, 2015 are based on the results of the July 1, 2013 actuarial valuation. Accordingly, governmental employers utilize the following notes to the schedule relating to the Actuarially Determined Contributions when presenting 2015. If 2015 is not presented, then a separate set of notes would apply.

Actuarial cost method	Frozen initial liability
Amortization method	Level dollar, closed (not to exceed 20 years)
Remaining amortization period	20 years
Asset valuation method	10-year smoothed within a 20 percent corridor to market value
Inflation	3.0 percent
Salary increases	Graded salary ranges from 8.97 to 3.71 percent based on age, including inflation, averaging 4.25 percent
Investment rate of return	7.5 percent, net of investment expense, including inflation
Retirement age	Pattern of retirement determined by experience study
Mortality	Customized table based on actual experience including an adjustment for some anticipated improvement
Cost of living adjustments	2.5 percent, if provided

Tennessee Consolidated Retirement System

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GASB Statement No. 68

Actuarial Report
Reporting Date: June 30, 2015

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Accounting Governance Background

Statement No. 27 of the Governmental Accounting Standards Board was amended by Statement No. 68 of the Governmental Accounting Standards Board. Statement No. 68 became effective for employer financial statements for the fiscal year beginning after June 15, 2014. Statement No. 68 establishes financial reporting standards for state and local government employers with pension plans that are administered through trusts or equivalent arrangements. The objective of this statement is to improve the usefulness of the information included in employer financial statements.

Purpose and Use

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Actuarial findings in this report are based on actuarial assumptions which reflect expected plan experience. Although the deviation of the actual future plan experience and the expected experience inherently creates some uncertainty with the results, in our opinion the actuarial assumptions reasonably reflect the expected future experience of the plan. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. All of these factors can cause volatility in the Net Pension Liability (Asset) over time.

Data

The calculations shown in this report have been prepared using employee data (including covered-employee payroll) and plan documentation furnished by the Tennessee Consolidated Retirement System as of June 30, 2014. Plan asset information was furnished by the Tennessee Consolidated Retirement System for the twelve month period ending June 30, 2014. While we have not audited the data, we have reviewed it for reasonableness and internal consistency. We have made reasonable assumptions with regard to any incomplete records, and to the best of our knowledge, there are no material limitations to the data provided. A complete summary of the census data utilized in this report is available upon request.

Subsequent Events

We are unaware of any subsequent event after June 30, 2015 which would have a material effect on the results presented in this report.

Assumptions, Methods, and Procedures

The results presented in this report comply with the assumptions, methods, and procedures under Statement No. 68. The results are based on a June 30, 2014 actuarial valuation date, a measurement date of June 30, 2014 and a reporting date of June 30, 2015. All assumptions are selected by the TCRS Board of Trustees. Statement No. 68 mandates the use of the Entry Age Normal actuarial funding method.

Changes in Plan Provisions, Actuarial Assumptions, and Actuarial Methods

No changes were made to the plan provisions, actuarial assumptions and methods at the June 30, 2014 actuarial valuation date compared to the most recent funding valuation completed as of July 1, 2013.

Summaries of the plan provisions and actuarial assumptions can be found in the Basis for Valuation section of this report and in the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013.

Professional Qualifications

This report has been prepared under the supervision of Justin C. Thacker, a member of the American Academy of Actuaries, a Fellow of the Society of Actuaries, and a consulting actuary with Bryan, Pendleton, Swats and McAllister, LLC, who has met the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions herein. To the best of our knowledge this report has been prepared in accordance with generally accepted actuarial standards and our understanding of Government Accounting Standards Board Statement No. 68, including the overall appropriateness of the analysis, assumptions, and results and conforms to appropriate Standards of Practice as promulgated from time to time by the Actuarial Standards Board, which standards form the basis for the actuarial report. We are not aware of any direct or material indirect financial interest or relationship that could create, or appear to create, a conflict of interest that would impair the objectivity of our work. The undersigned are available to provide supplemental information or explanation.

Justin C. Thacker
Fellow, Society of Actuaries
Enrollment No. 14-6078
Phone 615.665.5387

October 15, 2015
Date

Tim C. Lavender
Fellow, Society of Actuaries
Enrollment No. 14-6745
Phone 615.665.5305

October 15, 2015
Date

Summary of Plan Provisions

The actuarial valuation includes all benefits provided by the Tennessee Consolidated Retirement System to the current active and inactive plan members. Benefit provisions include retirement, death and disability benefits. If applicable, post-retirement cost of living adjustments are included. Please refer to the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013 for a complete summary of plan provisions.

Summary of Actuarial Assumptions and Methods

Investment Rate of Return

7.5 percent per annum, compounded annually

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees in conjunction with the June 30, 2012 actuarial experience study by considering the following three techniques: (1) the 25-year historical return of the TCRS at June 30, 2012, (2) the historical market returns of asset classes from 1926 to 2012 using the TCRS investment policy asset allocation, and (3) capital market projections that were utilized as a building-block method in which best-estimate ranges of expected future real rate of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. Four sources of capital market projections were blended and utilized in the third technique. The blended capital market projection established the long-term expected rate of return by weighting the expected future real rate of return by the target asset allocation percentage and by adding inflation of 3 percent. The target allocation and best estimates of arithmetic real rates of return for each major asset class are summarized in the following table:

Asset Class	**Long-Term Expected Real Rate of Return**	**Target Allocations**
U.S. equity	6.46%	33%
Developed market international equity	6.26%	17%
Emerging market international equity	6.40%	5%
Private equity and strategic lending	4.61%	8%
U.S. fixed income	0.98%	29%
Real estate	4.73%	7%
Short-term securities	0.00%	1%
		100%

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees as 7.5 percent based on a blending of the three techniques described above.

Discount Rate

7.5 percent per annum, compounded annually

Paragraph 29 of Statement No. 68 provides for an alternative method to be used other than the projection of the pension plan's fiduciary net position based on projected contributions, benefit payments and investment earnings. The current contribution policy requires contributions of the normal cost plus a closed amortization of the unfunded liabilities (not to exceed 30 years from when the unfunded liability was created). In addition, the employer has a documented history of contributing 100 percent of the actuarially determined contribution requirement. The discount rate utilized assumes that employee contributions will be made at the current applicable rate and that contributions from the employer will be made at the actuarially determined contribution rate pursuant to an actuarial valuation in accordance with the pension funding policy of the TCRS Board of Trustees and as required to be paid by state statute. Based on these assumptions and the actuarial methodology adopted, the employer's fiduciary net position is expected to remain positive and to be available to make projected future benefit payments of current active and inactive members and to cover administrative expenses. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Actuarial Valuation Method

All liabilities and normal costs shown in this report are calculated based on the Entry Age Normal method.

Asset Valuation Method

Fair Market Value

Amortization Method for GASB Statement No. 68

Level Dollar

Amortization Period for GASB Statement No. 68

Investment gains or losses are amortized over five years. Experience gains or losses and changes in actuarial assumptions are amortized over the average working lifetime of all participants. Plan amendments are recognized immediately.

Additional Assumptions

Please refer to the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013 for a complete summary of actuarial assumptions.

Selection of Assumptions

The TCRS Board of Trustees selected the assumptions described above based on the review of plan experience in conjunction with an experience study conducted as of June 30, 2012. A complete plan experience study is conducted every four years.

GASB Statement No. 68

This section presents specific information required under Statement No. 68. The information in this report is to satisfy the employer reporting for the pension plan. This section contains the following:

- Summary of Key Actuarial Assumptions for Statement No. 68
- Employees Covered by Benefit Terms at June 30, 2014
- Contributions
- Schedule of Changes in the Net Pension Liability (Asset)
- Sensitivity of Net Pension Liability (Asset) to Changes in the Discount Rate
- Pension Expense (Income) and Deferred Outflows/Inflows of Resources
- Schedule of Changes in Net Pension Liability (Asset) and Related Ratios
- Schedule of Contributions

Fiduciary Net Position is the amount of assets available for benefits in the Pension Plan.

Total Pension Liability is the plan liability determined using assumptions listed in the Summary of Actuarial Assumptions.

Net Pension Liability (Asset) is the difference in the Total Pension Liability and the Fiduciary Net Position.

Summary of Key Actuarial Assumptions for GASB Statement No. 68

Reporting Date	June 30, 2015
Measurement Date	June 30, 2014
Actuarial Valuation Date	June 30, 2014
Actuarial cost method	Entry Age Normal
Amortization method	Level dollar
Asset valuation method	Fair market value
Inflation	3.0 percent
Salary increases	Graded salary ranges from 8.97 to 3.71 percent based on age, including inflation, averaging 4.25 percent
Investment rate of return	7.5 percent, net of investment expense, including inflation
Retirement age	Pattern of retirement determined by experience study
Mortality	Customized table based on actual experience including an adjustment for some anticipated improvement
Cost of living adjustments	2.5 percent, if provided

Employees Covered by Benefit Terms at June 30, 2014

Inactive employees or beneficiaries currently receiving benefits	1
Inactive employees entitled to but not yet receiving benefits	0
Active employees	0
Total	1

A complete summary of the census data utilized in this report is available upon request.

Contributions

June 30, 2014 employer contributions	$5,152
Employer contribution rate	n/a

Schedule of Changes in Net Pension Liability (Asset)

	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (Asset) (a) - (b)
Balance at June 30, 2013	$55,537	$25,055	$30,482
Service cost	0		0
Interest	3,813		3,813
Differences between expected and actual experience	1,436		1,436
Contributions-employer		5,152	(5,152)
Contributions-employee		0	0
Net investment income		3,802	(3,802)
Benefit payments, including refunds of employee contributions	(9,395)	(9,395)	
Administrative expense		(2)	2
Net changes	(4,146)	(443)	(3,703)
Balance at June 30, 2014	$51,391	$24,612	$26,779

Sensitivity of Net Pension Liability (Asset) to Changes in the Discount Rate

The following represents the net pension liability (asset) calculated using the stated discount rate, as well as what the net pension liability (asset) would be if it were calculated using a discount rate that is 1-percentage-point lower or 1-percentage-point higher than the current rate:

	1% Decrease (6.50%)	Current Rate (7.50%)	1% Increase (8.50%)
Net Pension Liability (Asset)	$30,451	$26,779	$23,525

Pension Expense (Income) and Deferred Outflows/Inflows of Resources

	Pension Expense (Income)
Service cost	$0
Interest	3,813
Contributions-employees	0
Projected investment income	(1,720)
Recognition of experience (gain)/loss	1,436
Recognition of investment (gain)/loss	(416)
Administrative expense	2
Pension Expense (Income)	$3,115

For the year ended June 30, 2015, the recognized pension expense (income) is $3,115. At June 30, 2015, deferred outflows of resources and deferred inflows of resources related to pensions are from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$0	$0
Changes of assumptions	0	0
Net difference between projected and actual earnings of pension plan investments	0	1,666
Total	$0	$1,666

Amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

Year ended June 30:	Outflows (a)	Inflows (b)	Amount Reported (a) + (b)
2015	$1,436	$(416)	$1,020
2016	0	(416)	(416)
2017	0	(416)	(416)
2018	0	(416)	(416)
2019	0	(416)	(416)
2020	0	0	0
Thereafter	0	0	0

Development of Deferred Outflows and Deferred Inflows

	Original Amount	Date Established	Original Period	Amount Recognized in Expense	Deferred Outflow Amount	Deferred Inflow Amount
Experience (gains) / losses	$1,436	6/30/2015	1	$1,436	$0	$(0)
		Total		$1,436	$0	$(0)
Investment (gains) / losses	$(2,082)	6/30/2015	5	$(416)	$0	$(1,666)
		Total		$(416)	$0	$(1,666)
Assumption changes	$0	6/30/2015	0	$0	$0	$(0)
		Total		$0	$0	$(0)

Schedule of Changes in the Net Pension Liability (Asset) and Related Ratios

for fiscal year ending June 30, 2015 (year shown is measurement date)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total Pension Liability										
Service cost	$0									
Interest	3,813									
Changes of benefit terms	0									
Differences between expected and actual experience	1,436									
Changes of assumptions	0									
Benefit Payments, including refunds of employee contributions	(9,395)									
Net Change in Total Pension Liability (Asset)	(4,146)									
Total Pension Liability (Asset) - beginning	55,537									
Total Pension Liability (Asset) - ending (a)	$51,391									
Plan Fiduciary Net Position										
Contributions - employer	$5,152									
Contributions - employee	0									
Net investment income	3,802									
Benefit Payments, including refunds of employee contributions	(9,395)									
Administrative expenses	(2)									
Other	0									
Net Change in Plan Fiduciary Net Position	$(443)									
Plan Fiduciary Net Position - beginning	25,055									
Plan Fiduciary Net Position - ending (b)	$24,612									
Net Pension Liability (Asset) - ending (a) - (b)	$26,779									
Plan Fiduciary Net Position as a % of the Total Pension Liability	47.89%									
Covered-employee payroll	$0									
Net Pension Liability (Asset) as a % of covered-employee payroll	n/a									

Schedule of Contributions

	fiscal year ending June 30									
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Actuarially determined contribution	$5,152									
Contributions in relation to the actuarially determined contribution	5,152									
Contribution deficiency (excess)	$0									
Covered-employee payroll	$0									
Contributions as a percentage of covered-employee payroll	n/a									

Notes to the Schedule Relating to the Actuarially Determined Contribution

Employer contributions for the year ended June 30, 2015 are based on the results of the July 1, 2013 actuarial valuation. Accordingly, governmental employers utilize the following notes to the schedule relating to the Actuarially Determined Contributions when presenting 2015. If 2015 is not presented, then a separate set of notes would apply.

Actuarial cost method	Frozen initial liability
Amortization method	Level dollar, closed (not to exceed 20 years)
Remaining amortization period	15 years
Asset valuation method	10-year smoothed within a 20 percent corridor to market value
Inflation	3.0 percent
Salary increases	Graded salary ranges from 8.97 to 3.71 percent based on age, including inflation, averaging 4.25 percent
Investment rate of return	7.5 percent, net of investment expense, including inflation
Retirement age	Pattern of retirement determined by experience study
Mortality	Customized table based on actual experience including an adjustment for some anticipated improvement
Cost of living adjustments	2.5 percent, if provided

Tennessee Consolidated Retirement System

NORTH UT DIST OF DECATUR BENTON CO

GASB Statement No. 68

Actuarial Report
Reporting Date: June 30, 2015

Table of Contents

Accounting Governance Background

Statement No. 27 of the Governmental Accounting Standards Board was amended by Statement No. 68 of the Governmental Accounting Standards Board. Statement No. 68 became effective for employer financial statements for the fiscal year beginning after June 15, 2014. Statement No. 68 establishes financial reporting standards for state and local government employers with pension plans that are administered through trusts or equivalent arrangements. The objective of this statement is to improve the usefulness of the information included in employer financial statements.

Purpose and Use

This report has been prepared exclusively for the Tennessee Consolidated Retirement System. Actuarial computations under Statement No. 68 are for purposes of fulfilling employer governmental accounting requirements, and may not be appropriate for other purposes. The calculations reported herein have been made on a basis consistent with our understanding of the statement. Bryan, Pendleton, Swats & McAllister, LLC is not responsible for consequences resulting from the use of any part of this report without prior authorization or approval. This report provides actuarial advice and does not constitute legal, accounting, tax or investment advice. Determinations for other purposes, such as funding, bond ratings, or judging benefit security, may be significantly different from the results shown in this report.

Actuarial findings in this report are based on actuarial assumptions which reflect expected plan experience. Although the deviation of the actual future plan experience and the expected experience inherently creates some uncertainty with the results, in our opinion the actuarial assumptions reasonably reflect the expected future experience of the plan. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan’s funded status); and changes in plan provisions or applicable law. All of these factors can cause volatility in the Net Pension Liability (Asset) over time.

Data

The calculations shown in this report have been prepared using employee data (including covered-employee payroll) and plan documentation furnished by the Tennessee Consolidated Retirement System as of June 30, 2014. Plan asset information was furnished by the Tennessee Consolidated Retirement System for the twelve month period ending June 30, 2014. While we have not audited the data, we have reviewed it for reasonableness and internal consistency. We have made reasonable assumptions with regard to any incomplete records, and to the best of our knowledge, there are no material limitations to the data provided. A complete summary of the census data utilized in this report is available upon request.

Subsequent Events

We are unaware of any subsequent event after June 30, 2015 which would have a material effect on the results presented in this report.

Assumptions, Methods, and Procedures

The results presented in this report comply with the assumptions, methods, and procedures under Statement No. 68. The results are based on a June 30, 2014 actuarial valuation date, a measurement date of June 30, 2014 and a reporting date of June 30, 2015. All assumptions are selected by the TCRS Board of Trustees. Statement No. 68 mandates the use of the Entry Age Normal actuarial funding method.

Changes in Plan Provisions, Actuarial Assumptions, and Actuarial Methods

No changes were made to the plan provisions, actuarial assumptions and methods at the June 30, 2014 actuarial valuation date compared to the most recent funding valuation completed as of July 1, 2013.

Summaries of the plan provisions and actuarial assumptions can be found in the Basis for Valuation section of this report and in the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013.

Professional Qualifications

This report has been prepared under the supervision of Justin C. Thacker, a member of the American Academy of Actuaries, a Fellow of the Society of Actuaries, and a consulting actuary with Bryan, Pendleton, Swats and McAllister, LLC, who has met the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions herein. To the best of our knowledge this report has been prepared in accordance with generally accepted actuarial standards and our understanding of Government Accounting Standards Board Statement No. 68, including the overall appropriateness of the analysis, assumptions, and results and conforms to appropriate Standards of Practice as promulgated from time to time by the Actuarial Standards Board, which standards form the basis for the actuarial report. We are not aware of any direct or material indirect financial interest or relationship that could create, or appear to create, a conflict of interest that would impair the objectivity of our work. The undersigned are available to provide supplemental information or explanation.

Justin Thacker

Justin C. Thacker
Fellow, Society of Actuaries
Enrollment No. 14-6078
Phone 615.665.5387

October 15, 2015
Date

Tim Lavender

Tim C. Lavender
Fellow, Society of Actuaries
Enrollment No. 14-6745
Phone 615.665.5305

October 15, 2015
Date

Summary of Plan Provisions

The actuarial valuation includes all benefits provided by the Tennessee Consolidated Retirement System to the current active and inactive plan members. Benefit provisions include retirement, death and disability benefits. If applicable, post-retirement cost of living adjustments are included. Please refer to the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013 for a complete summary of plan provisions.

Summary of Actuarial Assumptions and Methods

Investment Rate of Return

7.5 percent per annum, compounded annually

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees in conjunction with the June 30, 2012 actuarial experience study by considering the following three techniques: (1) the 25-year historical return of the TCRS at June 30, 2012, (2) the historical market returns of asset classes from 1926 to 2012 using the TCRS investment policy asset allocation, and (3) capital market projections that were utilized as a building-block method in which best-estimate ranges of expected future real rate of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. Four sources of capital market projections were blended and utilized in the third technique. The blended capital market projection established the long-term expected rate of return by weighting the expected future real rate of return by the target asset allocation percentage and by adding inflation of 3 percent. The target allocation and best estimates of arithmetic real rates of return for each major asset class are summarized in the following table:

Asset Class	**Long-Term Expected Real Rate of Return**	**Target Allocations**
U.S. equity	6.46%	33%
Developed market international equity	6.26%	17%
Emerging market international equity	6.40%	5%
Private equity and strategic lending	4.61%	8%
U.S. fixed income	0.98%	29%
Real estate	4.73%	7%
Short-term securities	0.00%	1%
		100%

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees as 7.5 percent based on a blending of the three techniques described above.

Discount Rate

7.5 percent per annum, compounded annually

Paragraph 29 of Statement No. 68 provides for an alternative method to be used other than the projection of the pension plan's fiduciary net position based on projected contributions, benefit payments and investment earnings. The current contribution policy requires contributions of the normal cost plus a closed amortization of the unfunded liabilities (not to exceed 30 years from when the unfunded liability was created). In addition, the employer has a documented history of contributing 100 percent of the actuarially determined contribution requirement. The discount rate utilized assumes that employee contributions will be made at the current applicable rate and that contributions from the employer will be made at the actuarially determined contribution rate pursuant to an actuarial valuation in accordance with the pension funding policy of the TCRS Board of Trustees and as required to be paid by state statute. Based on these assumptions and the actuarial methodology adopted, the employer's fiduciary net position is expected to remain positive and to be available to make projected future benefit payments of current active and inactive members and to cover administrative expenses. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Actuarial Valuation Method

All liabilities and normal costs shown in this report are calculated based on the Entry Age Normal method.

Asset Valuation Method

Fair Market Value

Amortization Method for GASB Statement No. 68

Level Dollar

Amortization Period for GASB Statement No. 68

Investment gains or losses are amortized over five years. Experience gains or losses and changes in actuarial assumptions are amortized over the average working lifetime of all participants. Plan amendments are recognized immediately.

Additional Assumptions

Please refer to the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013 for a complete summary of actuarial assumptions.

Selection of Assumptions

The TCRS Board of Trustees selected the assumptions described above based on the review of plan experience in conjunction with an experience study conducted as of June 30, 2012. A complete plan experience study is conducted every four years.

GASB Statement No. 68

This section presents specific information required under Statement No. 68. The information in this report is to satisfy the employer reporting for the pension plan. This section contains the following:

- Summary of Key Actuarial Assumptions for Statement No. 68
- Employees Covered by Benefit Terms at June 30, 2014
- Contributions
- Schedule of Changes in the Net Pension Liability (Asset)
- Sensitivity of Net Pension Liability (Asset) to Changes in the Discount Rate
- Pension Expense (Income) and Deferred Outflows/Inflows of Resources
- Schedule of Changes in Net Pension Liability (Asset) and Related Ratios
- Schedule of Contributions

Fiduciary Net Position is the amount of assets available for benefits in the Pension Plan.

Total Pension Liability is the plan liability determined using assumptions listed in the Summary of Actuarial Assumptions.

Net Pension Liability (Asset) is the difference in the Total Pension Liability and the Fiduciary Net Position.

Summary of Key Actuarial Assumptions for GASB Statement No. 68

Reporting Date	June 30, 2015
Measurement Date	June 30, 2014
Actuarial Valuation Date	June 30, 2014
Actuarial cost method	Entry Age Normal
Amortization method	Level dollar
Asset valuation method	Fair market value
Inflation	3.0 percent
Salary increases	Graded salary ranges from 8.97 to 3.71 percent based on age, including inflation, averaging 4.25 percent
Investment rate of return	7.5 percent, net of investment expense, including inflation
Retirement age	Pattern of retirement determined by experience study
Mortality	Customized table based on actual experience including an adjustment for some anticipated improvement
Cost of living adjustments	2.5 percent, if provided

Employees Covered by Benefit Terms at June 30, 2014

Inactive employees or beneficiaries currently receiving benefits	0
Inactive employees entitled to but not yet receiving benefits	1
Active employees	3
Total	4

A complete summary of the census data utilized in this report is available upon request.

Contributions

June 30, 2014 employer contributions	$6,488
Employer contribution rate	7.62%

Schedule of Changes in Net Pension Liability (Asset)

	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (Asset) (a) - (b)
Balance at June 30, 2013	$57,636	$118,409	$(60,773)
Service cost	6,094		6,094
Interest	4,780		4,780
Differences between expected and actual experience	(1,343)		(1,343)
Contributions-employer		6,488	(6,488)
Contributions-employee		4,257	(4,257)
Net investment income		20,512	(20,512)
Benefit payments, including refunds of employee contributions	0	0	
Administrative expense		(108)	108
Net changes	9,531	31,149	(21,618)
Balance at June 30, 2014	$67,167	$149,558	$(82,391)

Sensitivity of Net Pension Liability (Asset) to Changes in the Discount Rate

The following represents the net pension liability (asset) calculated using the stated discount rate, as well as what the net pension liability (asset) would be if it were calculated using a discount rate that is 1-percentage-point lower or 1-percentage-point higher than the current rate:

	1% Decrease (6.50%)	Current Rate (7.50%)	1% Increase (8.50%)
Net Pension Liability (Asset)	$(67,376)	$(82,391)	$(94,147)

Pension Expense (Income) and Deferred Outflows/Inflows of Resources

	Pension Expense (Income)
Service cost	$6,094
Interest	4,780
Contributions-employees	(4,257)
Projected investment income	(9,280)
Recognition of experience (gain)/loss	(122)
Recognition of investment (gain)/loss	(2,246)
Administrative expense	108
Pension Expense (Income)	$(4,923)

For the year ended June 30, 2015, the recognized pension expense (income) is $(4,923). At June 30, 2015, deferred outflows of resources and deferred inflows of resources related to pensions are from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$0	$1,221
Changes of assumptions	0	0
Net difference between projected and actual earnings of pension plan investments	0	8,986
Total	$0	$10,207

Amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

Year ended June 30:	Outflows (a)	Inflows (b)	Amount Reported (a) + (b)
2015	$0	$(2,368)	$(2,368)
2016	0	(2,368)	(2,368)
2017	0	(2,368)	(2,368)
2018	0	(2,368)	(2,368)
2019	0	(2,368)	(2,368)
2020	0	(122)	(122)
Thereafter	0	(610)	(610)

Development of Deferred Outflows and Deferred Inflows

	Original Amount	Date Established	Original Period	Amount Recognized in Expense	Deferred Outflow Amount	Deferred Inflow Amount
Experience (gains) / losses	$(1,343)	6/30/2015	11	$(122)	$0	$(1,221)
		Total		$(122)	$0	$(1,221)
Investment (gains) / losses	$(11,232)	6/30/2015	5	$(2,246)	$0	$(8,986)
		Total		$(2,246)	$0	$(8,986)
Assumption changes	$0	6/30/2015	0	$0	$0	$(0)
		Total		$0	$0	$(0)

Schedule of Changes in the Net Pension Liability (Asset) and Related Ratios

for fiscal year ending June 30, 2015 (year shown is measurement date)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total Pension Liability										
Service cost	$6,094									
Interest	4,780									
Changes of benefit terms	0									
Differences between expected and actual experience	(1,343)									
Changes of assumptions	0									
Benefit Payments, including refunds of employee contributions	0									
Net Change in Total Pension Liability (Asset)	9,531									
Total Pension Liability (Asset) - beginning	57,636									
Total Pension Liability (Asset) - ending (a)	$67,167									
Plan Fiduciary Net Position										
Contributions - employer	$6,488									
Contributions - employee	4,257									
Net investment income	20,512									
Benefit Payments, including refunds of employee contributions	0									
Administrative expenses	(108)									
Other	0									
Net Change in Plan Fiduciary Net Position	$31,149									
Plan Fiduciary Net Position - beginning	118,409									
Plan Fiduciary Net Position - ending (b)	$149,558									
Net Pension Liability (Asset) - ending (a) - (b)	$(82,391)									
Plan Fiduciary Net Position as a % of the Total Pension Liability	222.67%									
Covered-employee payroll	$85,150									
Net Pension Liability (Asset) as a % of covered-employee payroll	(96.76%)									

Schedule of Contributions

	fiscal year ending June 30									
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Actuarially determined contribution	$6,488									
Contributions in relation to the actuarially determined contribution	6,488									
Contribution deficiency (excess)	$0									
Covered-employee payroll	$85,150									
Contributions as a percentage of covered-employee payroll	7.62%									

Notes to the Schedule Relating to the Actuarially Determined Contribution

Employer contributions for the year ended June 30, 2015 are based on the results of the July 1, 2013 actuarial valuation. Accordingly, governmental employers utilize the following notes to the schedule relating to the Actuarially Determined Contributions when presenting 2015. If 2015 is not presented, then a separate set of notes would apply.

Actuarial cost method	Frozen initial liability
Amortization method	Level dollar, closed (not to exceed 20 years)
Remaining amortization period	1 years
Asset valuation method	10-year smoothed within a 20 percent corridor to market value
Inflation	3.0 percent
Salary increases	Graded salary ranges from 8.97 to 3.71 percent based on age, including inflation, averaging 4.25 percent
Investment rate of return	7.5 percent, net of investment expense, including inflation
Retirement age	Pattern of retirement determined by experience study
Mortality	Customized table based on actual experience including an adjustment for some anticipated improvement
Cost of living adjustments	2.5 percent, if provided

BPS&M
Bryan, Pendleton, Swats & McAllister, LLC
A Wells Fargo Company

Tennessee Consolidated Retirement System

LINCOLN COUNTY BOARD OF PUBLIC UTILITIES

GASB Statement No. 68

Actuarial Report
Reporting Date: June 30, 2015

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Accounting Governance Background

Statement No. 27 of the Governmental Accounting Standards Board was amended by Statement No. 68 of the Governmental Accounting Standards Board. Statement No. 68 became effective for employer financial statements for the fiscal year beginning after June 15, 2014. Statement No. 68 establishes financial reporting standards for state and local government employers with pension plans that are administered through trusts or equivalent arrangements. The objective of this statement is to improve the usefulness of the information included in employer financial statements.

Purpose and Use

This report has been prepared exclusively for the Tennessee Consolidated Retirement System. Actuarial computations under Statement No. 68 are for purposes of fulfilling employer governmental accounting requirements, and may not be appropriate for other purposes. The calculations reported herein have been made on a basis consistent with our understanding of the statement. Bryan, Pendleton, Swats & McAllister, LLC is not responsible for consequences resulting from the use of any part of this report without prior authorization or approval. This report provides actuarial advice and does not constitute legal, accounting, tax or investment advice. Determinations for other purposes, such as funding, bond ratings, or judging benefit security, may be significantly different from the results shown in this report.

Actuarial findings in this report are based on actuarial assumptions which reflect expected plan experience. Although the deviation of the actual future plan experience and the expected experience inherently creates some uncertainty with the results, in our opinion the actuarial assumptions reasonably reflect the expected future experience of the plan. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan’s funded status); and changes in plan provisions or applicable law. All of these factors can cause volatility in the Net Pension Liability (Asset) over time.

Data

The calculations shown in this report have been prepared using employee data (including covered-employee payroll) and plan documentation furnished by the Tennessee Consolidated Retirement System as of June 30, 2014. Plan asset information was furnished by the Tennessee Consolidated Retirement System for the twelve month period ending June 30, 2014. While we have not audited the data, we have reviewed it for reasonableness and internal consistency. We have made reasonable assumptions with regard to any incomplete records, and to the best of our knowledge, there are no material limitations to the data provided. A complete summary of the census data utilized in this report is available upon request.

Subsequent Events

We are unaware of any subsequent event after June 30, 2015 which would have a material effect on the results presented in this report.

Assumptions, Methods, and Procedures

The results presented in this report comply with the assumptions, methods, and procedures under Statement No. 68. The results are based on a June 30, 2014 actuarial valuation date, a measurement date of June 30, 2014 and a reporting date of June 30, 2015. All assumptions are selected by the TCRS Board of Trustees. Statement No. 68 mandates the use of the Entry Age Normal actuarial funding method.

Changes in Plan Provisions, Actuarial Assumptions, and Actuarial Methods

No changes were made to the plan provisions, actuarial assumptions and methods at the June 30, 2014 actuarial valuation date compared to the most recent funding valuation completed as of July 1, 2013.

Summaries of the plan provisions and actuarial assumptions can be found in the Basis for Valuation section of this report and in the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013.

Professional Qualifications

This report has been prepared under the supervision of Justin C. Thacker, a member of the American Academy of Actuaries, a Fellow of the Society of Actuaries, and a consulting actuary with Bryan, Pendleton, Swats and McAllister, LLC, who has met the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions herein. To the best of our knowledge this report has been prepared in accordance with generally accepted actuarial standards and our understanding of Government Accounting Standards Board Statement No. 68, including the overall appropriateness of the analysis, assumptions, and results and conforms to appropriate Standards of Practice as promulgated from time to time by the Actuarial Standards Board, which standards form the basis for the actuarial report. We are not aware of any direct or material indirect financial interest or relationship that could create, or appear to create, a conflict of interest that would impair the objectivity of our work. The undersigned are available to provide supplemental information or explanation.

Justin C. Thacker
Fellow, Society of Actuaries
Enrollment No. 14-6078
Phone 615.665.5387

October 15, 2015
Date

Tim C. Lavender
Fellow, Society of Actuaries
Enrollment No. 14-6745
Phone 615.665.5305

October 15, 2015
Date

Summary of Plan Provisions

The actuarial valuation includes all benefits provided by the Tennessee Consolidated Retirement System to the current active and inactive plan members. Benefit provisions include retirement, death and disability benefits. If applicable, post-retirement cost of living adjustments are included. Please refer to the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013 for a complete summary of plan provisions.

Summary of Actuarial Assumptions and Methods

Investment Rate of Return

7.5 percent per annum, compounded annually

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees in conjunction with the June 30, 2012 actuarial experience study by considering the following three techniques: (1) the 25-year historical return of the TCRS at June 30, 2012, (2) the historical market returns of asset classes from 1926 to 2012 using the TCRS investment policy asset allocation, and (3) capital market projections that were utilized as a building-block method in which best-estimate ranges of expected future real rate of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. Four sources of capital market projections were blended and utilized in the third technique. The blended capital market projection established the long-term expected rate of return by weighting the expected future real rate of return by the target asset allocation percentage and by adding inflation of 3 percent. The target allocation and best estimates of arithmetic real rates of return for each major asset class are summarized in the following table:

Asset Class	Long-Term Expected Real Rate of Return	Target Allocations
U.S. equity	6.46%	33%
Developed market international equity	6.26%	17%
Emerging market international equity	6.40%	5%
Private equity and strategic lending	4.61%	8%
U.S. fixed income	0.98%	29%
Real estate	4.73%	7%
Short-term securities	0.00%	1%
		100%

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees as 7.5 percent based on a blending of the three techniques described above.

Discount Rate

7.5 percent per annum, compounded annually

Paragraph 29 of Statement No. 68 provides for an alternative method to be used other than the projection of the pension plan's fiduciary net position based on projected contributions, benefit payments and investment earnings. The current contribution policy requires contributions of the normal cost plus a closed amortization of the unfunded liabilities (not to exceed 30 years from when the unfunded liability was created). In addition, the employer has a documented history of contributing 100 percent of the actuarially determined contribution requirement. The discount rate utilized assumes that employee contributions will be made at the current applicable rate and that contributions from the employer will be made at the actuarially determined contribution rate pursuant to an actuarial valuation in accordance with the pension funding policy of the TCRS Board of Trustees and as required to be paid by state statute. Based on these assumptions and the actuarial methodology adopted, the employer's fiduciary net position is expected to remain positive and to be available to make projected future benefit payments of current active and inactive members and to cover administrative expenses. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Actuarial Valuation Method

All liabilities and normal costs shown in this report are calculated based on the Entry Age Normal method.

Asset Valuation Method

Fair Market Value

Amortization Method for GASB Statement No. 68

Level Dollar

Amortization Period for GASB Statement No. 68

Investment gains or losses are amortized over five years. Experience gains or losses and changes in actuarial assumptions are amortized over the average working lifetime of all participants. Plan amendments are recognized immediately.

Additional Assumptions

Please refer to the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013 for a complete summary of actuarial assumptions.

Selection of Assumptions

The TCRS Board of Trustees selected the assumptions described above based on the review of plan experience in conjunction with an experience study conducted as of June 30, 2012. A complete plan experience study is conducted every four years.

GASB Statement No. 68

This section presents specific information required under Statement No. 68. The information in this report is to satisfy the employer reporting for the pension plan. This section contains the following:

- Summary of Key Actuarial Assumptions for Statement No. 68
- Employees Covered by Benefit Terms at June 30, 2014
- Contributions
- Schedule of Changes in the Net Pension Liability (Asset)
- Sensitivity of Net Pension Liability (Asset) to Changes in the Discount Rate
- Pension Expense (Income) and Deferred Outflows/Inflows of Resources
- Schedule of Changes in Net Pension Liability (Asset) and Related Ratios
- Schedule of Contributions

Fiduciary Net Position is the amount of assets available for benefits in the Pension Plan.

Total Pension Liability is the plan liability determined using assumptions listed in the Summary of Actuarial Assumptions.

Net Pension Liability (Asset) is the difference in the Total Pension Liability and the Fiduciary Net Position.

Summary of Key Actuarial Assumptions for GASB Statement No. 68

Reporting Date	June 30, 2015
Measurement Date	June 30, 2014
Actuarial Valuation Date	June 30, 2014
Actuarial cost method	Entry Age Normal
Amortization method	Level dollar
Asset valuation method	Fair market value
Inflation	3.0 percent
Salary increases	Graded salary ranges from 8.97 to 3.71 percent based on age, including inflation, averaging 4.25 percent
Investment rate of return	7.5 percent, net of investment expense, including inflation
Retirement age	Pattern of retirement determined by experience study
Mortality	Customized table based on actual experience including an adjustment for some anticipated improvement
Cost of living adjustments	2.5 percent, if provided

Employees Covered by Benefit Terms at June 30, 2014

Inactive employees or beneficiaries currently receiving benefits		4
Inactive employees entitled to but not yet receiving benefits		5
Active employees		23
	Total	32

A complete summary of the census data utilized in this report is available upon request.

Contributions

June 30, 2014 employer contributions	$89,791
Employer contribution rate	8.55%

Schedule of Changes in Net Pension Liability (Asset)

	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (Asset) (a) - (b)
Balance at June 30, 2013	$1,838,265	$2,128,288	$(290,023)
Service cost	74,745		74,745
Interest	138,371		138,371
Differences between expected and actual experience	(156,724)		(156,724)
Contributions-employer		89,791	(89,791)
Contributions-employee		52,509	(52,509)
Net investment income		353,248	(353,248)
Benefit payments, including refunds of employee contributions	(136,129)	(136,129)	
Administrative expense		(1,066)	1,066
Net changes	(79,737)	358,353	(438,090)
Balance at June 30, 2014	$1,758,528	$2,486,641	$(728,113)

Sensitivity of Net Pension Liability (Asset) to Changes in the Discount Rate

The following represents the net pension liability (asset) calculated using the stated discount rate, as well as what the net pension liability (asset) would be if it were calculated using a discount rate that is 1-percentage-point lower or 1-percentage-point higher than the current rate:

	1% Decrease (6.50%)	Current Rate (7.50%)	1% Increase (8.50%)
Net Pension Liability (Asset)	$(497,691)	$(728,113)	$(919,452)

Pension Expense (Income) and Deferred Outflows/Inflows of Resources

	Pension Expense (Income)
Service cost	$74,745
Interest	138,371
Contributions-employees	(52,509)
Projected investment income	(159,813)
Recognition of experience (gain)/loss	(19,591)
Recognition of investment (gain)/loss	(38,687)
Administrative expense	1,066
Pension Expense (Income)	$(56,418)

For the year ended June 30, 2015, the recognized pension expense (income) is $(56,418). At June 30, 2015, deferred outflows of resources and deferred inflows of resources related to pensions are from the following sources:

	Deferred Outflows of Resources	**Deferred Inflows of Resources**
Differences between expected and actual experience	$0	$137,133
Changes of assumptions	0	0
Net difference between projected and actual earnings of pension plan investments	0	154,748
Total	$0	$291,881

Amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

Year ended June 30:	Outflows (a)	Inflows (b)	Amount Reported (a) + (b)
2015	$0	$(58,278)	$(58,278)
2016	0	(58,278)	(58,278)
2017	0	(58,278)	(58,278)
2018	0	(58,278)	(58,278)
2019	0	(58,278)	(58,278)
2020	0	(19,591)	(19,591)
Thereafter	0	(39,182)	(39,182)

Development of Deferred Outflows and Deferred Inflows

	Original Amount	Date Established	Original Period	Amount Recognized in Expense	Deferred Outflow Amount	Deferred Inflow Amount
Experience (gains) / losses	$(156,724)	6/30/2015	8	$(19,591)	$0	$(137,133)
		Total		$(19,591)	$0	$(137,133)
Investment (gains) / losses	$(193,435)	6/30/2015	5	$(38,687)	$0	$(154,748)
		Total		$(38,687)	$0	$(154,748)
Assumption changes	$0	6/30/2015	0	$0	$0	$(0)
		Total		$0	$0	$(0)

Schedule of Changes in the Net Pension Liability (Asset) and Related Ratios

for fiscal year ending June 30, 2015 (year shown is measurement date)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total Pension Liability										
Service cost	$74,745									
Interest	138,371									
Changes of benefit terms	0									
Differences between expected and actual experience	(156,724)									
Changes of assumptions	0									
Benefit Payments, including refunds of employee contributions	(136,129)									
Net Change in Total Pension Liability (Asset)	(79,737)									
Total Pension Liability (Asset) - beginning	1,838,265									
Total Pension Liability (Asset) - ending (a)	$1,758,528									
Plan Fiduciary Net Position										
Contributions - employer	$89,791									
Contributions - employee	52,509									
Net investment income	353,248									
Benefit Payments, including refunds of employee contributions	(136,129)									
Administrative expenses	(1,066)									
Other	0									
Net Change in Plan Fiduciary Net Position	$358,353									
Plan Fiduciary Net Position - beginning	2,128,288									
Plan Fiduciary Net Position - ending (b)	$2,486,641									
Net Pension Liability (Asset) - ending (a) - (b)	$(728,113)									
Plan Fiduciary Net Position as a % of the Total Pension Liability	141.40%									
Covered-employee payroll	$1,050,185									
Net Pension Liability (Asset) as a % of covered-employee payroll	(69.33%)									

Schedule of Contributions

	fiscal year ending June 30									
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Actuarially determined contribution	$89,791									
Contributions in relation to the actuarially determined contribution	89,791									
Contribution deficiency (excess)	$0									
Covered-employee payroll	$1,050,185									
Contributions as a percentage of covered-employee payroll	8.55%									

Notes to the Schedule Relating to the Actuarially Determined Contribution

Employer contributions for the year ended June 30, 2015 are based on the results of the July 1, 2013 actuarial valuation. Accordingly, governmental employers utilize the following notes to the schedule relating to the Actuarially Determined Contributions when presenting 2015. If 2015 is not presented, then a separate set of notes would apply.

Actuarial cost method	Frozen initial liability
Amortization method	Level dollar, closed (not to exceed 20 years)
Remaining amortization period	1 years
Asset valuation method	10-year smoothed within a 20 percent corridor to market value
Inflation	3.0 percent
Salary increases	Graded salary ranges from 8.97 to 3.71 percent based on age, including inflation, averaging 4.25 percent
Investment rate of return	7.5 percent, net of investment expense, including inflation
Retirement age	Pattern of retirement determined by experience study
Mortality	Customized table based on actual experience including an adjustment for some anticipated improvement
Cost of living adjustments	2.5 percent, if provided

Tennessee Consolidated Retirement System

HENDERSON COUNTY COURTHOUSE

GASB Statement No. 68

Actuarial Report
Reporting Date: June 30, 2015

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Accounting Governance Background

Statement No. 27 of the Governmental Accounting Standards Board was amended by Statement No. 68 of the Governmental Accounting Standards Board. Statement No. 68 became effective for employer financial statements for the fiscal year beginning after June 15, 2014. Statement No. 68 establishes financial reporting standards for state and local government employers with pension plans that are administered through trusts or equivalent arrangements. The objective of this statement is to improve the usefulness of the information included in employer financial statements.

Purpose and Use

This report has been prepared exclusively for the Tennessee Consolidated Retirement System. Actuarial computations under Statement No. 68 are for purposes of fulfilling employer governmental accounting requirements, and may not be appropriate for other purposes. The calculations reported herein have been made on a basis consistent with our understanding of the statement. Bryan, Pendleton, Swats & McAllister, LLC is not responsible for consequences resulting from the use of any part of this report without prior authorization or approval. This report provides actuarial advice and does not constitute legal, accounting, tax or investment advice. Determinations for other purposes, such as funding, bond ratings, or judging benefit security, may be significantly different from the results shown in this report.

Actuarial findings in this report are based on actuarial assumptions which reflect expected plan experience. Although the deviation of the actual future plan experience and the expected experience inherently creates some uncertainty with the results, in our opinion the actuarial assumptions reasonably reflect the expected future experience of the plan. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan’s funded status); and changes in plan provisions or applicable law. All of these factors can cause volatility in the Net Pension Liability (Asset) over time.

Data

The calculations shown in this report have been prepared using employee data (including covered-employee payroll) and plan documentation furnished by the Tennessee Consolidated Retirement System as of June 30, 2014. Plan asset information was furnished by the Tennessee Consolidated Retirement System for the twelve month period ending June 30, 2014. While we have not audited the data, we have reviewed it for reasonableness and internal consistency. We have made reasonable assumptions with regard to any incomplete records, and to the best of our knowledge, there are no material limitations to the data provided. A complete summary of the census data utilized in this report is available upon request.

Subsequent Events

We are unaware of any subsequent event after June 30, 2015 which would have a material effect on the results presented in this report.

Assumptions, Methods, and Procedures

The results presented in this report comply with the assumptions, methods, and procedures under Statement No. 68. The results are based on a June 30, 2014 actuarial valuation date, a measurement date of June 30, 2014 and a reporting date of June 30, 2015. All assumptions are selected by the TCRS Board of Trustees. Statement No. 68 mandates the use of the Entry Age Normal actuarial funding method.

Changes in Plan Provisions, Actuarial Assumptions, and Actuarial Methods

No changes were made to the plan provisions, actuarial assumptions and methods at the June 30, 2014 actuarial valuation date compared to the most recent funding valuation completed as of July 1, 2013.

Summaries of the plan provisions and actuarial assumptions can be found in the Basis for Valuation section of this report and in the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013.

Professional Qualifications

This report has been prepared under the supervision of Justin C. Thacker, a member of the American Academy of Actuaries, a Fellow of the Society of Actuaries, and a consulting actuary with Bryan, Pendleton, Swats and McAllister, LLC, who has met the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions herein. To the best of our knowledge this report has been prepared in accordance with generally accepted actuarial standards and our understanding of Government Accounting Standards Board Statement No. 68, including the overall appropriateness of the analysis, assumptions, and results and conforms to appropriate Standards of Practice as promulgated from time to time by the Actuarial Standards Board, which standards form the basis for the actuarial report. We are not aware of any direct or material indirect financial interest or relationship that could create, or appear to create, a conflict of interest that would impair the objectivity of our work. The undersigned are available to provide supplemental information or explanation.

Justin Thacker

October 15, 2015

Justin C. Thacker
Fellow, Society of Actuaries
Enrollment No. 14-6078
Phone 615.665.5387

Date

Tim Lavender

October 15, 2015

Tim C. Lavender
Fellow, Society of Actuaries
Enrollment No. 14-6745
Phone 615.665.5305

Date

Summary of Plan Provisions

The actuarial valuation includes all benefits provided by the Tennessee Consolidated Retirement System to the current active and inactive plan members. Benefit provisions include retirement, death and disability benefits. If applicable, post-retirement cost of living adjustments are included. Please refer to the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013 for a complete summary of plan provisions.

Summary of Actuarial Assumptions and Methods

Investment Rate of Return

7.5 percent per annum, compounded annually

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees in conjunction with the June 30, 2012 actuarial experience study by considering the following three techniques: (1) the 25-year historical return of the TCRS at June 30, 2012, (2) the historical market returns of asset classes from 1926 to 2012 using the TCRS investment policy asset allocation, and (3) capital market projections that were utilized as a building-block method in which best-estimate ranges of expected future real rate of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. Four sources of capital market projections were blended and utilized in the third technique. The blended capital market projection established the long-term expected rate of return by weighting the expected future real rate of return by the target asset allocation percentage and by adding inflation of 3 percent. The target allocation and best estimates of arithmetic real rates of return for each major asset class are summarized in the following table:

Asset Class	Long-Term Expected Real Rate of Return	Target Allocations
U.S. equity	6.46%	33%
Developed market international equity	6.26%	17%
Emerging market international equity	6.40%	5%
Private equity and strategic lending	4.61%	8%
U.S. fixed income	0.98%	29%
Real estate	4.73%	7%
Short-term securities	0.00%	1%
		100%

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees as 7.5 percent based on a blending of the three techniques described above.

Discount Rate

7.5 percent per annum, compounded annually

Paragraph 29 of Statement No. 68 provides for an alternative method to be used other than the projection of the pension plan's fiduciary net position based on projected contributions, benefit payments and investment earnings. The current contribution policy requires contributions of the normal cost plus a closed amortization of the unfunded liabilities (not to exceed 30 years from when the unfunded liability was created). In addition, the employer has a documented history of contributing 100 percent of the actuarially determined contribution requirement. The discount rate utilized assumes that employee contributions will be made at the current applicable rate and that contributions from the employer will be made at the actuarially determined contribution rate pursuant to an actuarial valuation in accordance with the pension funding policy of the TCRS Board of Trustees and as required to be paid by state statute. Based on these assumptions and the actuarial methodology adopted, the employer's fiduciary net position is expected to remain positive and to be available to make projected future benefit payments of current active and inactive members and to cover administrative expenses. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Actuarial Valuation Method

All liabilities and normal costs shown in this report are calculated based on the Entry Age Normal method.

Asset Valuation Method

Fair Market Value

Amortization Method for GASB Statement No. 68

Level Dollar

Amortization Period for GASB Statement No. 68

Investment gains or losses are amortized over five years. Experience gains or losses and changes in actuarial assumptions are amortized over the average working lifetime of all participants. Plan amendments are recognized immediately.

Additional Assumptions

Please refer to the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013 for a complete summary of actuarial assumptions.

Selection of Assumptions

The TCRS Board of Trustees selected the assumptions described above based on the review of plan experience in conjunction with an experience study conducted as of June 30, 2012. A complete plan experience study is conducted every four years.

GASB Statement No. 68

This section presents specific information required under Statement No. 68. The information in this report is to satisfy the employer reporting for the pension plan. This section contains the following:

- Summary of Key Actuarial Assumptions for Statement No. 68
- Employees Covered by Benefit Terms at June 30, 2014
- Contributions
- Schedule of Changes in the Net Pension Liability (Asset)
- Sensitivity of Net Pension Liability (Asset) to Changes in the Discount Rate
- Pension Expense (Income) and Deferred Outflows/Inflows of Resources
- Schedule of Changes in Net Pension Liability (Asset) and Related Ratios
- Schedule of Contributions

Fiduciary Net Position is the amount of assets available for benefits in the Pension Plan.

Total Pension Liability is the plan liability determined using assumptions listed in the Summary of Actuarial Assumptions.

Net Pension Liability (Asset) is the difference in the Total Pension Liability and the Fiduciary Net Position.

Summary of Key Actuarial Assumptions for GASB Statement No. 68

Reporting Date	June 30, 2015
Measurement Date	June 30, 2014
Actuarial Valuation Date	June 30, 2014
Actuarial cost method	Entry Age Normal
Amortization method	Level dollar
Asset valuation method	Fair market value
Inflation	3.0 percent
Salary increases	Graded salary ranges from 8.97 to 3.71 percent based on age, including inflation, averaging 4.25 percent
Investment rate of return	7.5 percent, net of investment expense, including inflation
Retirement age	Pattern of retirement determined by experience study
Mortality	Customized table based on actual experience including an adjustment for some anticipated improvement
Cost of living adjustments	2.5 percent, if provided

Employees Covered by Benefit Terms at June 30, 2014

Inactive employees or beneficiaries currently receiving benefits	66
Inactive employees entitled to but not yet receiving benefits	206
Active employees	301
Total	573

A complete summary of the census data utilized in this report is available upon request.

Contributions

June 30, 2014 employer contributions	$614,892
Employer contribution rate	8.79%

Schedule of Changes in Net Pension Liability (Asset)

	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (Asset) (a) - (b)
Balance at June 30, 2013	$8,397,431	$9,089,060	$(691,629)
Service cost	478,864		478,864
Interest	652,941		652,941
Differences between expected and actual experience	32,965		32,965
Contributions-employer		614,892	(614,892)
Contributions-employee		349,768	(349,768)
Net investment income		1,564,166	(1,564,166)
Benefit payments, including refunds of employee contributions	(340,827)	(340,827)	
Administrative expense		(10,654)	10,654
Net changes	823,943	2,177,345	(1,353,402)
Balance at June 30, 2014	$9,221,374	$11,266,405	$(2,045,031)

Sensitivity of Net Pension Liability (Asset) to Changes in the Discount Rate

The following represents the net pension liability (asset) calculated using the stated discount rate, as well as what the net pension liability (asset) would be if it were calculated using a discount rate that is 1-percentage-point lower or 1-percentage-point higher than the current rate:

	1% Decrease (6.50%)	Current Rate (7.50%)	1% Increase (8.50%)
Net Pension Liability (Asset)	$(816,773)	$(2,045,031)	$(3,058,850)

Pension Expense (Income) and Deferred Outflows/Inflows of Resources

	Pension Expense (Income)
Service cost	$478,864
Interest	652,941
Contributions-employees	(349,768)
Projected investment income	(704,674)
Recognition of experience (gain)/loss	4,709
Recognition of investment (gain)/loss	(171,898)
Administrative expense	10,654
Pension Expense (Income)	$(79,172)

For the year ended June 30, 2015, the recognized pension expense (income) is $(79,172). At June 30, 2015, deferred outflows of resources and deferred inflows of resources related to pensions are from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$28,256	$0
Changes of assumptions	0	0
Net difference between projected and actual earnings of pension plan investments	0	687,594
Total	$28,256	$687,594

Amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

Year ended June 30:	Outflows (a)	Inflows (b)	Amount Reported (a) + (b)
2015	$4,709	$(171,898)	$(167,189)
2016	4,709	(171,898)	(167,189)
2017	4,709	(171,898)	(167,189)
2018	4,709	(171,898)	(167,189)
2019	4,709	(171,898)	(167,189)
2020	4,709	0	4,709
Thereafter	4,709	0	4,709

Development of Deferred Outflows and Deferred Inflows

	Original Amount	Date Established	Original Period	Amount Recognized in Expense	Deferred Outflow Amount	Deferred Inflow Amount
Experience (gains) / losses	$32,965	6/30/2015	7	$4,709	$28,256	$(0)
		Total		$4,709	$28,256	$(0)
Investment (gains) / losses	$(859,492)	6/30/2015	5	$(171,898)	$0	$(687,594)
		Total		$(171,898)	$0	$(687,594)
Assumption changes	$0	6/30/2015	0	$0	$0	$(0)
		Total		$0	$0	$(0)

Schedule of Changes in the Net Pension Liability (Asset) and Related Ratios

for fiscal year ending June 30, 2015 (year shown is measurement date)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total Pension Liability										
Service cost	$478,864									
Interest	652,941									
Changes of benefit terms	0									
Differences between expected and actual experience	32,965									
Changes of assumptions	0									
Benefit Payments, including refunds of employee contributions	(340,827)									
Net Change in Total Pension Liability (Asset)	823,943									
Total Pension Liability (Asset) - beginning	8,397,431									
Total Pension Liability (Asset) - ending (a)	$9,221,374									
Plan Fiduciary Net Position										
Contributions - employer	$614,892									
Contributions - employee	349,768									
Net investment income	1,564,166									
Benefit Payments, including refunds of employee contributions	(340,827)									
Administrative expenses	(10,654)									
Other	0									
Net Change in Plan Fiduciary Net Position	$2,177,345									
Plan Fiduciary Net Position - beginning	9,089,060									
Plan Fiduciary Net Position - ending (b)	$11,266,405									
Net Pension Liability (Asset) - ending (a) - (b)	$(2,045,031)									
Plan Fiduciary Net Position as a % of the Total Pension Liability	122.18%									
Covered-employee payroll	$6,995,362									
Net Pension Liability (Asset) as a % of covered-employee payroll	(29.23%)									

Schedule of Contributions

	fiscal year ending June 30									
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Actuarially determined contribution	$614,892									
Contributions in relation to the actuarially determined contribution	614,892									
Contribution deficiency (excess)	$0									
Covered-employee payroll	$6,995,362									
Contributions as a percentage of covered-employee payroll	8.79%									

Notes to the Schedule Relating to the Actuarially Determined Contribution

Employer contributions for the year ended June 30, 2015 are based on the results of the July 1, 2013 actuarial valuation. Accordingly, governmental employers utilize the following notes to the schedule relating to the Actuarially Determined Contributions when presenting 2015. If 2015 is not presented, then a separate set of notes would apply.

Actuarial cost method	Frozen initial liability
Amortization method	Level dollar, closed (not to exceed 20 years)
Remaining amortization period	3 years
Asset valuation method	10-year smoothed within a 20 percent corridor to market value
Inflation	3.0 percent
Salary increases	Graded salary ranges from 8.97 to 3.71 percent based on age, including inflation, averaging 4.25 percent
Investment rate of return	7.5 percent, net of investment expense, including inflation
Retirement age	Pattern of retirement determined by experience study
Mortality	Customized table based on actual experience including an adjustment for some anticipated improvement
Cost of living adjustments	2.5 percent, if provided

Bryan, Pendleton, Swats & McAllister, LLC
A Wells Fargo Company

Tennessee Consolidated Retirement System

FENTRESS COUNTY ECD

GASB Statement No. 68

Actuarial Report
Reporting Date: June 30, 2015

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Accounting Governance Background

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Actuarial findings in this report are based on actuarial assumptions which reflect expected plan experience. Although the deviation of the actual future plan experience and the expected experience inherently creates some uncertainty with the results, in our opinion the actuarial assumptions reasonably reflect the expected future experience of the plan. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan’s funded status); and changes in plan provisions or applicable law. All of these factors can cause volatility in the Net Pension Liability (Asset) over time.

Data

The calculations shown in this report have been prepared using employee data (including covered-employee payroll) and plan documentation furnished by the Tennessee Consolidated Retirement System as of June 30, 2014. Plan asset information was furnished by the Tennessee Consolidated Retirement System for the twelve month period ending June 30, 2014. While we have not audited the data, we have reviewed it for reasonableness and internal consistency. We have made reasonable assumptions with regard to any incomplete records, and to the best of our knowledge, there are no material limitations to the data provided. A complete summary of the census data utilized in this report is available upon request.

Subsequent Events

We are unaware of any subsequent event after June 30, 2015 which would have a material effect on the results presented in this report.

Assumptions, Methods, and Procedures

The results presented in this report comply with the assumptions, methods, and procedures under Statement No. 68. The results are based on a June 30, 2014 actuarial valuation date, a measurement date of June 30, 2014 and a reporting date of June 30, 2015. All assumptions are selected by the TCRS Board of Trustees. Statement No. 68 mandates the use of the Entry Age Normal actuarial funding method.

Changes in Plan Provisions, Actuarial Assumptions, and Actuarial Methods

No changes were made to the plan provisions, actuarial assumptions and methods at the June 30, 2014 actuarial valuation date compared to the most recent funding valuation completed as of July 1, 2013.

Summaries of the plan provisions and actuarial assumptions can be found in the Basis for Valuation section of this report and in the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013.

Professional Qualifications

This report has been prepared under the supervision of Justin C. Thacker, a member of the American Academy of Actuaries, a Fellow of the Society of Actuaries, and a consulting actuary with Bryan, Pendleton, Swats and McAllister, LLC, who has met the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions herein. To the best of our knowledge this report has been prepared in accordance with generally accepted actuarial standards and our understanding of Government Accounting Standards Board Statement No. 68, including the overall appropriateness of the analysis, assumptions, and results and conforms to appropriate Standards of Practice as promulgated from time to time by the Actuarial Standards Board, which standards form the basis for the actuarial report. We are not aware of any direct or material indirect financial interest or relationship that could create, or appear to create, a conflict of interest that would impair the objectivity of our work. The undersigned are available to provide supplemental information or explanation.

Justin Thacker

October 15, 2015

Justin C. Thacker
Fellow, Society of Actuaries
Enrollment No. 14-6078
Phone 615.665.5387

Date

Tim Lavender

October 15, 2015

Tim C. Lavender
Fellow, Society of Actuaries
Enrollment No. 14-6745
Phone 615.665.5305

Date

Summary of Plan Provisions

The actuarial valuation includes all benefits provided by the Tennessee Consolidated Retirement System to the current active and inactive plan members. Benefit provisions include retirement, death and disability benefits. If applicable, post-retirement cost of living adjustments are included. Please refer to the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013 for a complete summary of plan provisions.

Summary of Actuarial Assumptions and Methods

Investment Rate of Return

7.5 percent per annum, compounded annually

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees in conjunction with the June 30, 2012 actuarial experience study by considering the following three techniques: (1) the 25-year historical return of the TCRS at June 30, 2012, (2) the historical market returns of asset classes from 1926 to 2012 using the TCRS investment policy asset allocation, and (3) capital market projections that were utilized as a building-block method in which best-estimate ranges of expected future real rate of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. Four sources of capital market projections were blended and utilized in the third technique. The blended capital market projection established the long-term expected rate of return by weighting the expected future real rate of return by the target asset allocation percentage and by adding inflation of 3 percent. The target allocation and best estimates of arithmetic real rates of return for each major asset class are summarized in the following table:

Asset Class	**Long-Term Expected Real Rate of Return**	**Target Allocations**
U.S. equity	6.46%	33%
Developed market international equity	6.26%	17%
Emerging market international equity	6.40%	5%
Private equity and strategic lending	4.61%	8%
U.S. fixed income	0.98%	29%
Real estate	4.73%	7%
Short-term securities	0.00%	1%
		100%

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees as 7.5 percent based on a blending of the three techniques described above.

Discount Rate

7.5 percent per annum, compounded annually

Paragraph 29 of Statement No. 68 provides for an alternative method to be used other than the projection of the pension plan's fiduciary net position based on projected contributions, benefit payments and investment earnings. The current contribution policy requires contributions of the normal cost plus a closed amortization of the unfunded liabilities (not to exceed 30 years from when the unfunded liability was created). In addition, the employer has a documented history of contributing 100 percent of the actuarially determined contribution requirement. The discount rate utilized assumes that employee contributions will be made at the current applicable rate and that contributions from the employer will be made at the actuarially determined contribution rate pursuant to an actuarial valuation in accordance with the pension funding policy of the TCRS Board of Trustees and as required to be paid by state statute. Based on these assumptions and the actuarial methodology adopted, the employer's fiduciary net position is expected to remain positive and to be available to make projected future benefit payments of current active and inactive members and to cover administrative expenses. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Actuarial Valuation Method

All liabilities and normal costs shown in this report are calculated based on the Entry Age Normal method.

Asset Valuation Method

Fair Market Value

Amortization Method for GASB Statement No. 68

Level Dollar

Amortization Period for GASB Statement No. 68

Investment gains or losses are amortized over five years. Experience gains or losses and changes in actuarial assumptions are amortized over the average working lifetime of all participants. Plan amendments are recognized immediately.

Additional Assumptions

Please refer to the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013 for a complete summary of actuarial assumptions.

Selection of Assumptions

The TCRS Board of Trustees selected the assumptions described above based on the review of plan experience in conjunction with an experience study conducted as of June 30, 2012. A complete plan experience study is conducted every four years.

GASB Statement No. 68

This section presents specific information required under Statement No. 68. The information in this report is to satisfy the employer reporting for the pension plan. This section contains the following:

- Summary of Key Actuarial Assumptions for Statement No. 68
- Employees Covered by Benefit Terms at June 30, 2014
- Contributions
- Schedule of Changes in the Net Pension Liability (Asset)
- Sensitivity of Net Pension Liability (Asset) to Changes in the Discount Rate
- Pension Expense (Income) and Deferred Outflows/Inflows of Resources
- Schedule of Changes in Net Pension Liability (Asset) and Related Ratios
- Schedule of Contributions

Fiduciary Net Position is the amount of assets available for benefits in the Pension Plan.

Total Pension Liability is the plan liability determined using assumptions listed in the Summary of Actuarial Assumptions.

Net Pension Liability (Asset) is the difference in the Total Pension Liability and the Fiduciary Net Position.

Summary of Key Actuarial Assumptions for GASB Statement No. 68

Reporting Date	June 30, 2015
Measurement Date	June 30, 2014
Actuarial Valuation Date	June 30, 2014
Actuarial cost method	Entry Age Normal
Amortization method	Level dollar
Asset valuation method	Fair market value
Inflation	3.0 percent
Salary increases	Graded salary ranges from 8.97 to 3.71 percent based on age, including inflation, averaging 4.25 percent
Investment rate of return	7.5 percent, net of investment expense, including inflation
Retirement age	Pattern of retirement determined by experience study
Mortality	Customized table based on actual experience including an adjustment for some anticipated improvement
Cost of living adjustments	2.5 percent, if provided

Employees Covered by Benefit Terms at June 30, 2014

Inactive employees or beneficiaries currently receiving benefits	0
Inactive employees entitled to but not yet receiving benefits	4
Active employees	10
Total	14

A complete summary of the census data utilized in this report is available upon request.

Contributions

June 30, 2014 employer contributions	$15,606
Employer contribution rate	5.63%

Schedule of Changes in Net Pension Liability (Asset)

	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (Asset) (a) - (b)
Balance at June 30, 2013	$259,421	$284,650	$(25,229)
Service cost	20,285		20,285
Interest	20,978		20,978
Differences between expected and actual experience	(10,150)		(10,150)
Contributions-employer		15,606	(15,606)
Contributions-employee		13,860	(13,860)
Net investment income		50,217	(50,217)
Benefit payments, including refunds of employee contributions	0	0	
Administrative expense		(352)	352
Net changes	31,113	79,331	(48,218)
Balance at June 30, 2014	$290,534	$363,981	$(73,447)

Sensitivity of Net Pension Liability (Asset) to Changes in the Discount Rate

The following represents the net pension liability (asset) calculated using the stated discount rate, as well as what the net pension liability (asset) would be if it were calculated using a discount rate that is 1-percentage-point lower or 1-percentage-point higher than the current rate:

	1% Decrease (6.50%)	Current Rate (7.50%)	1% Increase (8.50%)
Net Pension Liability (Asset)	$(19,180)	$(73,447)	$(117,709)

Pension Expense (Income) and Deferred Outflows/Inflows of Resources

	Pension Expense (Income)
Service cost	$20,285
Interest	20,978
Contributions-employees	(13,860)
Projected investment income	(22,441)
Recognition of experience (gain)/loss	(1,015)
Recognition of investment (gain)/loss	(5,555)
Administrative expense	352
Pension Expense (Income)	$(1,256)

For the year ended June 30, 2015, the recognized pension expense (income) is $(1,256). At June 30, 2015, deferred outflows of resources and deferred inflows of resources related to pensions are from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$0	$9,135
Changes of assumptions	0	0
Net difference between projected and actual earnings of pension plan investments	0	22,221
Total	$0	$31,356

Amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

Year ended June 30:	Outflows (a)	Inflows (b)	Amount Reported (a) + (b)
2015	$0	$(6,570)	$(6,570)
2016	0	(6,570)	(6,570)
2017	0	(6,570)	(6,570)
2018	0	(6,570)	(6,570)
2019	0	(6,570)	(6,570)
2020	0	(1,015)	(1,015)
Thereafter	0	(4,060)	(4,060)

Development of Deferred Outflows and Deferred Inflows

	Original Amount	Date Established	Original Period	Amount Recognized in Expense	Deferred Outflow Amount	Deferred Inflow Amount
Experience (gains) / losses	$(10,150)	6/30/2015	10	$(1,015)	$0	$(9,135)
		Total		$(1,015)	$0	$(9,135)
Investment (gains) / losses	$(27,776)	6/30/2015	5	$(5,555)	$0	$(22,221)
		Total		$(5,555)	$0	$(22,221)
Assumption changes	$0	6/30/2015	0	$0	$0	$(0)
		Total		$0	$0	$(0)

Schedule of Changes in the Net Pension Liability (Asset) and Related Ratios

for fiscal year ending June 30, 2015 (year shown is measurement date)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total Pension Liability										
Service cost	$20,285									
Interest	20,978									
Changes of benefit terms	0									
Differences between expected and actual experience	(10,150)									
Changes of assumptions	0									
Benefit Payments, including refunds of employee contributions	0									
Net Change in Total Pension Liability (Asset)	31,113									
Total Pension Liability (Asset) - beginning	259,421									
Total Pension Liability (Asset) - ending (a)	$290,534									
Plan Fiduciary Net Position										
Contributions - employer	$15,606									
Contributions - employee	13,860									
Net investment income	50,217									
Benefit Payments, including refunds of employee contributions	0									
Administrative expenses	(352)									
Other	0									
Net Change in Plan Fiduciary Net Position	$79,331									
Plan Fiduciary Net Position - beginning	284,650									
Plan Fiduciary Net Position - ending (b)	$363,981									
Net Pension Liability (Asset) - ending (a) - (b)	$(73,447)									
Plan Fiduciary Net Position as a % of the Total Pension Liability	125.28%									
Covered-employee payroll	$277,200									
Net Pension Liability (Asset) as a % of covered-employee payroll	(26.50%)									

Schedule of Contributions

	fiscal year ending June 30									
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Actuarially determined contribution	$15,606									
Contributions in relation to the actuarially determined contribution	15,606									
Contribution deficiency (excess)	$0									
Covered-employee payroll	$277,200									
Contributions as a percentage of covered-employee payroll	5.63%									

Notes to the Schedule Relating to the Actuarially Determined Contribution

Employer contributions for the year ended June 30, 2015 are based on the results of the July 1, 2013 actuarial valuation. Accordingly, governmental employers utilize the following notes to the schedule relating to the Actuarially Determined Contributions when presenting 2015. If 2015 is not presented, then a separate set of notes would apply.

Actuarial cost method	Frozen initial liability
Amortization method	Level dollar, closed (not to exceed 20 years)
Remaining amortization period	8 years
Asset valuation method	10-year smoothed within a 20 percent corridor to market value
Inflation	3.0 percent
Salary increases	Graded salary ranges from 8.97 to 3.71 percent based on age, including inflation, averaging 4.25 percent
Investment rate of return	7.5 percent, net of investment expense, including inflation
Retirement age	Pattern of retirement determined by experience study
Mortality	Customized table based on actual experience including an adjustment for some anticipated improvement
Cost of living adjustments	2.5 percent, if provided

Tennessee Consolidated Retirement System

MADISON SUBURBAN UTILITY DISTRICT

GASB Statement No. 68

Actuarial Report
Reporting Date: June 30, 2015

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Accounting Governance Background

Statement No. 27 of the Governmental Accounting Standards Board was amended by Statement No. 68 of the Governmental Accounting Standards Board. Statement No. 68 became effective for employer financial statements for the fiscal year beginning after June 15, 2014. Statement No. 68 establishes financial reporting standards for state and local government employers with pension plans that are administered through trusts or equivalent arrangements. The objective of this statement is to improve the usefulness of the information included in employer financial statements.

Purpose and Use

This report has been prepared exclusively for the Tennessee Consolidated Retirement System. Actuarial computations under Statement No. 68 are for purposes of fulfilling employer governmental accounting requirements, and may not be appropriate for other purposes. The calculations reported herein have been made on a basis consistent with our understanding of the statement. Bryan, Pendleton, Swats & McAllister, LLC is not responsible for consequences resulting from the use of any part of this report without prior authorization or approval. This report provides actuarial advice and does not constitute legal, accounting, tax or investment advice. Determinations for other purposes, such as funding, bond ratings, or judging benefit security, may be significantly different from the results shown in this report.

Actuarial findings in this report are based on actuarial assumptions which reflect expected plan experience. Although the deviation of the actual future plan experience and the expected experience inherently creates some uncertainty with the results, in our opinion the actuarial assumptions reasonably reflect the expected future experience of the plan. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. All of these factors can cause volatility in the Net Pension Liability (Asset) over time.

Data

The calculations shown in this report have been prepared using employee data (including covered-employee payroll) and plan documentation furnished by the Tennessee Consolidated Retirement System as of June 30, 2014. Plan asset information was furnished by the Tennessee Consolidated Retirement System for the twelve month period ending June 30, 2014. While we have not audited the data, we have reviewed it for reasonableness and internal consistency. We have made reasonable assumptions with regard to any incomplete records, and to the best of our knowledge, there are no material limitations to the data provided. A complete summary of the census data utilized in this report is available upon request.

Subsequent Events

We are unaware of any subsequent event after June 30, 2015 which would have a material effect on the results presented in this report.

Assumptions, Methods, and Procedures

The results presented in this report comply with the assumptions, methods, and procedures under Statement No. 68. The results are based on a June 30, 2014 actuarial valuation date, a measurement date of June 30, 2014 and a reporting date of June 30, 2015. All assumptions are selected by the TCRS Board of Trustees. Statement No. 68 mandates the use of the Entry Age Normal actuarial funding method.

Changes in Plan Provisions, Actuarial Assumptions, and Actuarial Methods

No changes were made to the plan provisions, actuarial assumptions and methods at the June 30, 2014 actuarial valuation date compared to the most recent funding valuation completed as of July 1, 2013.

Summaries of the plan provisions and actuarial assumptions can be found in the Basis for Valuation section of this report and in the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013.

Professional Qualifications

This report has been prepared under the supervision of Justin C. Thacker, a member of the American Academy of Actuaries, a Fellow of the Society of Actuaries, and a consulting actuary with Bryan, Pendleton, Swats and McAllister, LLC, who has met the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions herein. To the best of our knowledge this report has been prepared in accordance with generally accepted actuarial standards and our understanding of Government Accounting Standards Board Statement No. 68, including the overall appropriateness of the analysis, assumptions, and results and conforms to appropriate Standards of Practice as promulgated from time to time by the Actuarial Standards Board, which standards form the basis for the actuarial report. We are not aware of any direct or material indirect financial interest or relationship that could create, or appear to create, a conflict of interest that would impair the objectivity of our work. The undersigned are available to provide supplemental information or explanation.

Justin Thacker

Justin C. Thacker
Fellow, Society of Actuaries
Enrollment No. 14-6078
Phone 615.665.5387

October 15, 2015
Date

Tim Lavender

Tim C. Lavender
Fellow, Society of Actuaries
Enrollment No. 14-6745
Phone 615.665.5305

October 15, 2015
Date

Summary of Plan Provisions

The actuarial valuation includes all benefits provided by the Tennessee Consolidated Retirement System to the current active and inactive plan members. Benefit provisions include retirement, death and disability benefits. If applicable, post-retirement cost of living adjustments are included. Please refer to the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013 for a complete summary of plan provisions.

Summary of Actuarial Assumptions and Methods

Investment Rate of Return

7.5 percent per annum, compounded annually

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees in conjunction with the June 30, 2012 actuarial experience study by considering the following three techniques: (1) the 25-year historical return of the TCRS at June 30, 2012, (2) the historical market returns of asset classes from 1926 to 2012 using the TCRS investment policy asset allocation, and (3) capital market projections that were utilized as a building-block method in which best-estimate ranges of expected future real rate of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. Four sources of capital market projections were blended and utilized in the third technique. The blended capital market projection established the long-term expected rate of return by weighting the expected future real rate of return by the target asset allocation percentage and by adding inflation of 3 percent. The target allocation and best estimates of arithmetic real rates of return for each major asset class are summarized in the following table:

Asset Class	Long-Term Expected Real Rate of Return	Target Allocations
U.S. equity	6.46%	33%
Developed market international equity	6.26%	17%
Emerging market international equity	6.40%	5%
Private equity and strategic lending	4.61%	8%
U.S. fixed income	0.98%	29%
Real estate	4.73%	7%
Short-term securities	0.00%	1%
		100%

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees as 7.5 percent based on a blending of the three techniques described above.

Discount Rate

7.5 percent per annum, compounded annually

Paragraph 29 of Statement No. 68 provides for an alternative method to be used other than the projection of the pension plan's fiduciary net position based on projected contributions, benefit payments and investment earnings. The current contribution policy requires contributions of the normal cost plus a closed amortization of the unfunded liabilities (not to exceed 30 years from when the unfunded liability was created). In addition, the employer has a documented history of contributing 100 percent of the actuarially determined contribution requirement. The discount rate utilized assumes that employee contributions will be made at the current applicable rate and that contributions from the employer will be made at the actuarially determined contribution rate pursuant to an actuarial valuation in accordance with the pension funding policy of the TCRS Board of Trustees and as required to be paid by state statute. Based on these assumptions and the actuarial methodology adopted, the employer's fiduciary net position is expected to remain positive and to be available to make projected future benefit payments of current active and inactive members and to cover administrative expenses. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Actuarial Valuation Method

All liabilities and normal costs shown in this report are calculated based on the Entry Age Normal method.

Asset Valuation Method

Fair Market Value

Amortization Method for GASB Statement No. 68

Level Dollar

Amortization Period for GASB Statement No. 68

Investment gains or losses are amortized over five years. Experience gains or losses and changes in actuarial assumptions are amortized over the average working lifetime of all participants. Plan amendments are recognized immediately.

Additional Assumptions

Please refer to the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013 for a complete summary of actuarial assumptions.

Selection of Assumptions

The TCRS Board of Trustees selected the assumptions described above based on the review of plan experience in conjunction with an experience study conducted as of June 30, 2012. A complete plan experience study is conducted every four years.

GASB Statement No. 68

This section presents specific information required under Statement No. 68. The information in this report is to satisfy the employer reporting for the pension plan. This section contains the following:

- Summary of Key Actuarial Assumptions for Statement No. 68
- Employees Covered by Benefit Terms at June 30, 2014
- Contributions
- Schedule of Changes in the Net Pension Liability (Asset)
- Sensitivity of Net Pension Liability (Asset) to Changes in the Discount Rate
- Pension Expense (Income) and Deferred Outflows/Inflows of Resources
- Schedule of Changes in Net Pension Liability (Asset) and Related Ratios
- Schedule of Contributions

Fiduciary Net Position is the amount of assets available for benefits in the Pension Plan.

Total Pension Liability is the plan liability determined using assumptions listed in the Summary of Actuarial Assumptions.

Net Pension Liability (Asset) is the difference in the Total Pension Liability and the Fiduciary Net Position.

Summary of Key Actuarial Assumptions for GASB Statement No. 68

Reporting Date	June 30, 2015
Measurement Date	June 30, 2014
Actuarial Valuation Date	June 30, 2014
Actuarial cost method	Entry Age Normal
Amortization method	Level dollar
Asset valuation method	Fair market value
Inflation	3.0 percent
Salary increases	Graded salary ranges from 8.97 to 3.71 percent based on age, including inflation, averaging 4.25 percent
Investment rate of return	7.5 percent, net of investment expense, including inflation
Retirement age	Pattern of retirement determined by experience study
Mortality	Customized table based on actual experience including an adjustment for some anticipated improvement
Cost of living adjustments	2.5 percent, if provided

Employees Covered by Benefit Terms at June 30, 2014

Inactive employees or beneficiaries currently receiving benefits		5
Inactive employees entitled to but not yet receiving benefits		3
Active employees		37
	Total	45

A complete summary of the census data utilized in this report is available upon request.

Contributions

June 30, 2014 employer contributions	$954,772
Employer contribution rate	55.50%

Schedule of Changes in Net Pension Liability (Asset)

	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (Asset) (a) - (b)
Balance at June 30, 2013	$4,435,740	$218,404	$4,217,336
Service cost	102,619		102,619
Interest	338,290		338,290
Differences between expected and actual experience	(20,246)		(20,246)
Contributions-employer		954,772	(954,772)
Contributions-employee		86,021	(86,021)
Net investment income		117,697	(117,697)
Benefit payments, including refunds of employee contributions	(55,652)	(55,652)	
Administrative expense		(1,336)	1,336
Net changes	365,011	1,101,502	(736,491)
Balance at June 30, 2014	$4,800,751	$1,319,906	$3,480,845

Sensitivity of Net Pension Liability (Asset) to Changes in the Discount Rate

The following represents the net pension liability (asset) calculated using the stated discount rate, as well as what the net pension liability (asset) would be if it were calculated using a discount rate that is 1-percentage-point lower or 1-percentage-point higher than the current rate:

	1% Decrease (6.50%)	Current Rate (7.50%)	1% Increase (8.50%)
Net Pension Liability (Asset)	$4,238,890	$3,480,845	$2,854,859

Pension Expense (Income) and Deferred Outflows/Inflows of Resources

	Pension Expense (Income)
Service cost	$102,619
Interest	338,290
Contributions-employees	(86,021)
Projected investment income	(53,273)
Recognition of experience (gain)/loss	(2,025)
Recognition of investment (gain)/loss	(12,885)
Administrative expense	1,336
Pension Expense (Income)	$288,041

For the year ended June 30, 2015, the recognized pension expense (income) is $288,041. At June 30, 2015, deferred outflows of resources and deferred inflows of resources related to pensions are from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$0	$18,221
Changes of assumptions	0	0
Net difference between projected and actual earnings of pension plan investments	0	51,539
Total	$0	$69,760

Amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

Year ended June 30:	Outflows (a)	Inflows (b)	Amount Reported (a) + (b)
2015	$0	$(14,910)	$(14,910)
2016	0	(14,910)	(14,910)
2017	0	(14,910)	(14,910)
2018	0	(14,910)	(14,910)
2019	0	(14,910)	(14,910)
2020	0	(2,025)	(2,025)
Thereafter	0	(8,100)	(8,100)

Development of Deferred Outflows and Deferred Inflows

	Original Amount	Date Established	Original Period	Amount Recognized in Expense	Deferred Outflow Amount	Deferred Inflow Amount
Experience (gains) / losses	$(20,246)	6/30/2015	10	$(2,025)	$0	$(18,221)
		Total		$(2,025)	$0	$(18,221)
Investment (gains) / losses	$(64,424)	6/30/2015	5	$(12,885)	$0	$(51,539)
		Total		$(12,885)	$0	$(51,539)
Assumption changes	$0	6/30/2015	0	$0	$0	$(0)
		Total		$0	$0	$(0)

Schedule of Changes in the Net Pension Liability (Asset) and Related Ratios

for fiscal year ending June 30, 2015 (year shown is measurement date)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total Pension Liability										
Service cost	$102,619									
Interest	338,290									
Changes of benefit terms	0									
Differences between expected and actual experience	(20,246)									
Changes of assumptions	0									
Benefit Payments, including refunds of employee contributions	(55,652)									
Net Change in Total Pension Liability (Asset)	365,011									
Total Pension Liability (Asset) - beginning	4,435,740									
Total Pension Liability (Asset) - ending (a)	$4,800,751									
Plan Fiduciary Net Position										
Contributions - employer	$954,772									
Contributions - employee	86,021									
Net investment income	117,697									
Benefit Payments, including refunds of employee contributions	(55,652)									
Administrative expenses	(1,336)									
Other	0									
Net Change in Plan Fiduciary Net Position	$1,101,502									
Plan Fiduciary Net Position - beginning	218,404									
Plan Fiduciary Net Position - ending (b)	$1,319,906									
Net Pension Liability (Asset) - ending (a) - (b)	$3,480,845									
Plan Fiduciary Net Position as a % of the Total Pension Liability	27.49%									
Covered-employee payroll	$1,720,398									
Net Pension Liability (Asset) as a % of covered-employee payroll	202.33%									

Schedule of Contributions

	fiscal year ending June 30									
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Actuarially determined contribution	$391,735									
Contributions in relation to the actuarially determined contribution	954,772									
Contribution deficiency (excess)	$(563,037)									
Covered-employee payroll	$1,720,398									
Contributions as a percentage of covered-employee payroll	55.50%									

Notes to the Schedule Relating to the Actuarially Determined Contribution

Employer contributions for the year ended June 30, 2015 are based on the results of the July 1, 2013 actuarial valuation. Accordingly, governmental employers utilize the following notes to the schedule relating to the Actuarially Determined Contributions when presenting 2015. If 2015 is not presented, then a separate set of notes would apply.

Actuarial cost method	Frozen initial liability
Amortization method	Level dollar, closed (not to exceed 20 years)
Remaining amortization period	1 years
Asset valuation method	10-year smoothed within a 20 percent corridor to market value
Inflation	3.0 percent
Salary increases	Graded salary ranges from 8.97 to 3.71 percent based on age, including inflation, averaging 4.25 percent
Investment rate of return	7.5 percent, net of investment expense, including inflation
Retirement age	Pattern of retirement determined by experience study
Mortality	Customized table based on actual experience including an adjustment for some anticipated improvement
Cost of living adjustments	2.5 percent, if provided

Tennessee Consolidated Retirement System

SECOND SOUTH CHEATHAM UTILITY DISTRICT

GASB Statement No. 68

Actuarial Report

Reporting Date: June 30, 2015

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Accounting Governance Background

Statement No. 27 of the Governmental Accounting Standards Board was amended by Statement No. 68 of the Governmental Accounting Standards Board. Statement No. 68 became effective for employer financial statements for the fiscal year beginning after June 15, 2014. Statement No. 68 establishes financial reporting standards for state and local government employers with pension plans that are administered through trusts or equivalent arrangements. The objective of this statement is to improve the usefulness of the information included in employer financial statements.

Purpose and Use

This report has been prepared exclusively for the Tennessee Consolidated Retirement System. Actuarial computations under Statement No. 68 are for purposes of fulfilling employer governmental accounting requirements, and may not be appropriate for other purposes. The calculations reported herein have been made on a basis consistent with our understanding of the statement. Bryan, Pendleton, Swats & McAllister, LLC is not responsible for consequences resulting from the use of any part of this report without prior authorization or approval. This report provides actuarial advice and does not constitute legal, accounting, tax or investment advice. Determinations for other purposes, such as funding, bond ratings, or judging benefit security, may be significantly different from the results shown in this report.

Actuarial findings in this report are based on actuarial assumptions which reflect expected plan experience. Although the deviation of the actual future plan experience and the expected experience inherently creates some uncertainty with the results, in our opinion the actuarial assumptions reasonably reflect the expected future experience of the plan. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan’s funded status); and changes in plan provisions or applicable law. All of these factors can cause volatility in the Net Pension Liability (Asset) over time.

Data

The calculations shown in this report have been prepared using employee data (including covered-employee payroll) and plan documentation furnished by the Tennessee Consolidated Retirement System as of June 30, 2014. Plan asset information was furnished by the Tennessee Consolidated Retirement System for the twelve month period ending June 30, 2014. While we have not audited the data, we have reviewed it for reasonableness and internal consistency. We have made reasonable assumptions with regard to any incomplete records, and to the best of our knowledge, there are no material limitations to the data provided. A complete summary of the census data utilized in this report is available upon request.

Subsequent Events

We are unaware of any subsequent event after June 30, 2015 which would have a material effect on the results presented in this report.

Assumptions, Methods, and Procedures

The results presented in this report comply with the assumptions, methods, and procedures under Statement No. 68. The results are based on a June 30, 2014 actuarial valuation date, a measurement date of June 30, 2014 and a reporting date of June 30, 2015. All assumptions are selected by the TCRS Board of Trustees. Statement No. 68 mandates the use of the Entry Age Normal actuarial funding method.

Changes in Plan Provisions, Actuarial Assumptions, and Actuarial Methods

No changes were made to the plan provisions, actuarial assumptions and methods at the June 30, 2014 actuarial valuation date compared to the most recent funding valuation completed as of July 1, 2013.

Summaries of the plan provisions and actuarial assumptions can be found in the Basis for Valuation section of this report and in the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013.

Professional Qualifications

This report has been prepared under the supervision of Justin C. Thacker, a member of the American Academy of Actuaries, a Fellow of the Society of Actuaries, and a consulting actuary with Bryan, Pendleton, Swats and McAllister, LLC, who has met the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions herein. To the best of our knowledge this report has been prepared in accordance with generally accepted actuarial standards and our understanding of Government Accounting Standards Board Statement No. 68, including the overall appropriateness of the analysis, assumptions, and results and conforms to appropriate Standards of Practice as promulgated from time to time by the Actuarial Standards Board, which standards form the basis for the actuarial report. We are not aware of any direct or material indirect financial interest or relationship that could create, or appear to create, a conflict of interest that would impair the objectivity of our work. The undersigned are available to provide supplemental information or explanation.

Justin Thacker

October 15, 2015

Justin C. Thacker
Fellow, Society of Actuaries
Enrollment No. 14-6078
Phone 615.665.5387

Date

Tim Lavender

October 15, 2015

Tim C. Lavender
Fellow, Society of Actuaries
Enrollment No. 14-6745
Phone 615.665.5305

Date

Summary of Plan Provisions

The actuarial valuation includes all benefits provided by the Tennessee Consolidated Retirement System to the current active and inactive plan members. Benefit provisions include retirement, death and disability benefits. If applicable, post-retirement cost of living adjustments are included. Please refer to the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013 for a complete summary of plan provisions.

Summary of Actuarial Assumptions and Methods

Investment Rate of Return

7.5 percent per annum, compounded annually

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees in conjunction with the June 30, 2012 actuarial experience study by considering the following three techniques: (1) the 25-year historical return of the TCRS at June 30, 2012, (2) the historical market returns of asset classes from 1926 to 2012 using the TCRS investment policy asset allocation, and (3) capital market projections that were utilized as a building-block method in which best-estimate ranges of expected future real rate of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. Four sources of capital market projections were blended and utilized in the third technique. The blended capital market projection established the long-term expected rate of return by weighting the expected future real rate of return by the target asset allocation percentage and by adding inflation of 3 percent. The target allocation and best estimates of arithmetic real rates of return for each major asset class are summarized in the following table:

Asset Class	**Long-Term Expected Real Rate of Return**	**Target Allocations**
U.S. equity	6.46%	33%
Developed market international equity	6.26%	17%
Emerging market international equity	6.40%	5%
Private equity and strategic lending	4.61%	8%
U.S. fixed income	0.98%	29%
Real estate	4.73%	7%
Short-term securities	0.00%	1%
		100%

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees as 7.5 percent based on a blending of the three techniques described above.

Discount Rate

7.5 percent per annum, compounded annually

Paragraph 29 of Statement No. 68 provides for an alternative method to be used other than the projection of the pension plan's fiduciary net position based on projected contributions, benefit payments and investment earnings. The current contribution policy requires contributions of the normal cost plus a closed amortization of the unfunded liabilities (not to exceed 30 years from when the unfunded liability was created). In addition, the employer has a documented history of contributing 100 percent of the actuarially determined contribution requirement. The discount rate utilized assumes that employee contributions will be made at the current applicable rate and that contributions from the employer will be made at the actuarially determined contribution rate pursuant to an actuarial valuation in accordance with the pension funding policy of the TCRS Board of Trustees and as required to be paid by state statute. Based on these assumptions and the actuarial methodology adopted, the employer's fiduciary net position is expected to remain positive and to be available to make projected future benefit payments of current active and inactive members and to cover administrative expenses. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Actuarial Valuation Method

All liabilities and normal costs shown in this report are calculated based on the Entry Age Normal method.

Asset Valuation Method

Fair Market Value

Amortization Method for GASB Statement No. 68

Level Dollar

Amortization Period for GASB Statement No. 68

Investment gains or losses are amortized over five years. Experience gains or losses and changes in actuarial assumptions are amortized over the average working lifetime of all participants. Plan amendments are recognized immediately.

Additional Assumptions

Please refer to the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013 for a complete summary of actuarial assumptions.

Selection of Assumptions

The TCRS Board of Trustees selected the assumptions described above based on the review of plan experience in conjunction with an experience study conducted as of June 30, 2012. A complete plan experience study is conducted every four years.

GASB Statement No. 68

This section presents specific information required under Statement No. 68. The information in this report is to satisfy the employer reporting for the pension plan. This section contains the following:

- Summary of Key Actuarial Assumptions for Statement No. 68
- Employees Covered by Benefit Terms at June 30, 2014
- Contributions
- Schedule of Changes in the Net Pension Liability (Asset)
- Sensitivity of Net Pension Liability (Asset) to Changes in the Discount Rate
- Pension Expense (Income) and Deferred Outflows/Inflows of Resources
- Schedule of Changes in Net Pension Liability (Asset) and Related Ratios
- Schedule of Contributions

Fiduciary Net Position is the amount of assets available for benefits in the Pension Plan.

Total Pension Liability is the plan liability determined using assumptions listed in the Summary of Actuarial Assumptions.

Net Pension Liability (Asset) is the difference in the Total Pension Liability and the Fiduciary Net Position.

Summary of Key Actuarial Assumptions for GASB Statement No. 68

Reporting Date	June 30, 2015
Measurement Date	June 30, 2014
Actuarial Valuation Date	June 30, 2014
Actuarial cost method	Entry Age Normal
Amortization method	Level dollar
Asset valuation method	Fair market value
Inflation	3.0 percent
Salary increases	Graded salary ranges from 8.97 to 3.71 percent based on age, including inflation, averaging 4.25 percent
Investment rate of return	7.5 percent, net of investment expense, including inflation
Retirement age	Pattern of retirement determined by experience study
Mortality	Customized table based on actual experience including an adjustment for some anticipated improvement
Cost of living adjustments	2.5 percent, if provided

Employees Covered by Benefit Terms at June 30, 2014

Inactive employees or beneficiaries currently receiving benefits	0
Inactive employees entitled to but not yet receiving benefits	1
Active employees	10
Total	11

A complete summary of the census data utilized in this report is available upon request.

Contributions

June 30, 2014 employer contributions	$68,499
Employer contribution rate	15.61%

Schedule of Changes in Net Pension Liability (Asset)

	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (Asset) (a) - (b)
Balance at June 30, 2013	$129,103	$296,254	$(167,151)
Service cost	50,029		50,029
Interest	13,435		13,435
Differences between expected and actual experience	(3,436)		(3,436)
Contributions-employer		68,499	(68,499)
Contributions-employee		21,941	(21,941)
Net investment income		56,580	(56,580)
Benefit payments, including refunds of employee contributions	0	0	
Administrative expense		(355)	355
Net changes	60,028	146,665	(86,637)
Balance at June 30, 2014	$189,131	$442,919	$(253,788)

Sensitivity of Net Pension Liability (Asset) to Changes in the Discount Rate

The following represents the net pension liability (asset) calculated using the stated discount rate, as well as what the net pension liability (asset) would be if it were calculated using a discount rate that is 1-percentage-point lower or 1-percentage-point higher than the current rate:

	1% Decrease (6.50%)	Current Rate (7.50%)	1% Increase (8.50%)
Net Pension Liability (Asset)	$(212,840)	$(253,788)	$(287,239)

Pension Expense (Income) and Deferred Outflows/Inflows of Resources

	Pension Expense (Income)
Service cost	$50,029
Interest	13,435
Contributions-employees	(21,941)
Projected investment income	(25,597)
Recognition of experience (gain)/loss	(382)
Recognition of investment (gain)/loss	(6,197)
Administrative expense	355
Pension Expense (Income)	$9,702

For the year ended June 30, 2015, the recognized pension expense (income) is $9,702. At June 30, 2015, deferred outflows of resources and deferred inflows of resources related to pensions are from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$0	$3,054
Changes of assumptions	0	0
Net difference between projected and actual earnings of pension plan investments	0	24,786
Total	$0	$27,840

Amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

Year ended June 30:	Outflows (a)	Inflows (b)	Amount Reported (a) + (b)
2015	$0	$(6,579)	$(6,579)
2016	0	(6,579)	(6,579)
2017	0	(6,579)	(6,579)
2018	0	(6,579)	(6,579)
2019	0	(6,579)	(6,579)
2020	0	(382)	(382)
Thereafter	0	(1,146)	(1,146)

Development of Deferred Outflows and Deferred Inflows

	Original Amount	Date Established	Original Period	Amount Recognized in Expense	Deferred Outflow Amount	Deferred Inflow Amount
Experience (gains) / losses	$(3,436)	6/30/2015	9	$(382)	$0	$(3,054)
		Total		$(382)	$0	$(3,054)
Investment (gains) / losses	$(30,983)	6/30/2015	5	$(6,197)	$0	$(24,786)
		Total		$(6,197)	$0	$(24,786)
Assumption changes	$0	6/30/2015	0	$0	$0	$(0)
		Total		$0	$0	$(0)

Schedule of Changes in the Net Pension Liability (Asset) and Related Ratios

for fiscal year ending June 30, 2015 (year shown is measurement date)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total Pension Liability										
Service cost	$50,029									
Interest	13,435									
Changes of benefit terms	0									
Differences between expected and actual experience	(3,436)									
Changes of assumptions	0									
Benefit Payments, including refunds of employee contributions	0									
Net Change in Total Pension Liability (Asset)	60,028									
Total Pension Liability (Asset) - beginning	129,103									
Total Pension Liability (Asset) - ending (a)	$189,131									
Plan Fiduciary Net Position										
Contributions - employer	$68,499									
Contributions - employee	21,941									
Net investment income	56,580									
Benefit Payments, including refunds of employee contributions	0									
Administrative expenses	(355)									
Other	0									
Net Change in Plan Fiduciary Net Position	$146,665									
Plan Fiduciary Net Position - beginning	296,254									
Plan Fiduciary Net Position - ending (b)	$442,919									
Net Pension Liability (Asset) - ending (a) - (b)	$(253,788)									
Plan Fiduciary Net Position as a % of the Total Pension Liability	234.19%									
Covered-employee payroll	$438,815									
Net Pension Liability (Asset) as a % of covered-employee payroll	(57.83%)									

Schedule of Contributions

	fiscal year ending June 30									
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Actuarially determined contribution	$68,499									
Contributions in relation to the actuarially determined contribution	68,499									
Contribution deficiency (excess)	$0									
Covered-employee payroll	$438,815									
Contributions as a percentage of covered-employee payroll	15.61%									

Notes to the Schedule Relating to the Actuarially Determined Contribution

Employer contributions for the year ended June 30, 2015 are based on the results of the July 1, 2013 actuarial valuation. Accordingly, governmental employers utilize the following notes to the schedule relating to the Actuarially Determined Contributions when presenting 2015. If 2015 is not presented, then a separate set of notes would apply.

Actuarial cost method	Frozen initial liability
Amortization method	Level dollar, closed (not to exceed 20 years)
Remaining amortization period	1 years
Asset valuation method	10-year smoothed within a 20 percent corridor to market value
Inflation	3.0 percent
Salary increases	Graded salary ranges from 8.97 to 3.71 percent based on age, including inflation, averaging 4.25 percent
Investment rate of return	7.5 percent, net of investment expense, including inflation
Retirement age	Pattern of retirement determined by experience study
Mortality	Customized table based on actual experience including an adjustment for some anticipated improvement
Cost of living adjustments	2.5 percent, if provided

Tennessee Consolidated Retirement System

WEAKLEY COUNTY-HYBRID PLAN 3

GASB Statement No. 68

Actuarial Report

Reporting Date: June 30, 2015

Table of Contents

Accounting Governance Background

Statement No. 27 of the Governmental Accounting Standards Board was amended by Statement No. 68 of the Governmental Accounting Standards Board. Statement No. 68 became effective for employer financial statements for the fiscal year beginning after June 15, 2014. Statement No. 68 establishes financial reporting standards for state and local government employers with pension plans that are administered through trusts or equivalent arrangements. The objective of this statement is to improve the usefulness of the information included in employer financial statements.

Purpose and Use

This report has been prepared exclusively for the Tennessee Consolidated Retirement System. Actuarial computations under Statement No. 68 are for purposes of fulfilling employer governmental accounting requirements, and may not be appropriate for other purposes. The calculations reported herein have been made on a basis consistent with our understanding of the statement. Bryan, Pendleton, Swats & McAllister, LLC is not responsible for consequences resulting from the use of any part of this report without prior authorization or approval. This report provides actuarial advice and does not constitute legal, accounting, tax or investment advice. Determinations for other purposes, such as funding, bond ratings, or judging benefit security, may be significantly different from the results shown in this report.

Actuarial findings in this report are based on actuarial assumptions which reflect expected plan experience. Although the deviation of the actual future plan experience and the expected experience inherently creates some uncertainty with the results, in our opinion the actuarial assumptions reasonably reflect the expected future experience of the plan. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan’s funded status); and changes in plan provisions or applicable law. All of these factors can cause volatility in the Net Pension Liability (Asset) over time.

Data

The calculations shown in this report have been prepared using employee data (including covered-employee payroll) and plan documentation furnished by the Tennessee Consolidated Retirement System as of June 30, 2014. Plan asset information was furnished by the Tennessee Consolidated Retirement System for the twelve month period ending June 30, 2014. While we have not audited the data, we have reviewed it for reasonableness and internal consistency. We have made reasonable assumptions with regard to any incomplete records, and to the best of our knowledge, there are no material limitations to the data provided. A complete summary of the census data utilized in this report is available upon request.

Subsequent Events

We are unaware of any subsequent event after June 30, 2015 which would have a material effect on the results presented in this report.

Assumptions, Methods, and Procedures

The results presented in this report comply with the assumptions, methods, and procedures under Statement No. 68. The results are based on a June 30, 2014 actuarial valuation date, a measurement date of June 30, 2014 and a reporting date of June 30, 2015. All assumptions are selected by the TCRS Board of Trustees. Statement No. 68 mandates the use of the Entry Age Normal actuarial funding method.

Changes in Plan Provisions, Actuarial Assumptions, and Actuarial Methods

No changes were made to the plan provisions, actuarial assumptions and methods at the June 30, 2014 actuarial valuation date compared to the most recent funding valuation completed as of July 1, 2013.

Summaries of the plan provisions and actuarial assumptions can be found in the Basis for Valuation section of this report and in the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013.

Professional Qualifications

This report has been prepared under the supervision of Justin C. Thacker, a member of the American Academy of Actuaries, a Fellow of the Society of Actuaries, and a consulting actuary with Bryan, Pendleton, Swats and McAllister, LLC, who has met the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions herein. To the best of our knowledge this report has been prepared in accordance with generally accepted actuarial standards and our understanding of Government Accounting Standards Board Statement No. 68, including the overall appropriateness of the analysis, assumptions, and results and conforms to appropriate Standards of Practice as promulgated from time to time by the Actuarial Standards Board, which standards form the basis for the actuarial report. We are not aware of any direct or material indirect financial interest or relationship that could create, or appear to create, a conflict of interest that would impair the objectivity of our work. The undersigned are available to provide supplemental information or explanation.

Justin C. Thacker
Fellow, Society of Actuaries
Enrollment No. 14-6078
Phone 615.665.5387

October 15, 2015
Date

Tim C. Lavender
Fellow, Society of Actuaries
Enrollment No. 14-6745
Phone 615.665.5305

October 15, 2015
Date

Summary of Plan Provisions

The actuarial valuation includes all benefits provided by the Tennessee Consolidated Retirement System to the current active and inactive plan members. Benefit provisions include retirement, death and disability benefits. If applicable, post-retirement cost of living adjustments are included. Please refer to the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013 for a complete summary of plan provisions.

Summary of Actuarial Assumptions and Methods

Investment Rate of Return

7.5 percent per annum, compounded annually

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees in conjunction with the June 30, 2012 actuarial experience study by considering the following three techniques: (1) the 25-year historical return of the TCRS at June 30, 2012, (2) the historical market returns of asset classes from 1926 to 2012 using the TCRS investment policy asset allocation, and (3) capital market projections that were utilized as a building-block method in which best-estimate ranges of expected future real rate of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. Four sources of capital market projections were blended and utilized in the third technique. The blended capital market projection established the long-term expected rate of return by weighting the expected future real rate of return by the target asset allocation percentage and by adding inflation of 3 percent. The target allocation and best estimates of arithmetic real rates of return for each major asset class are summarized in the following table:

Asset Class	**Long-Term Expected Real Rate of Return**	**Target Allocations**
U.S. equity	6.46%	33%
Developed market international equity	6.26%	17%
Emerging market international equity	6.40%	5%
Private equity and strategic lending	4.61%	8%
U.S. fixed income	0.98%	29%
Real estate	4.73%	7%
Short-term securities	0.00%	1%
		100%

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees as 7.5 percent based on a blending of the three techniques described above.

Discount Rate

7.5 percent per annum, compounded annually

Paragraph 29 of Statement No. 68 provides for an alternative method to be used other than the projection of the pension plan's fiduciary net position based on projected contributions, benefit payments and investment earnings. The current contribution policy requires contributions of the normal cost plus a closed amortization of the unfunded liabilities (not to exceed 30 years from when the unfunded liability was created). In addition, the employer has a documented history of contributing 100 percent of the actuarially determined contribution requirement. The discount rate utilized assumes that employee contributions will be made at the current applicable rate and that contributions from the employer will be made at the actuarially determined contribution rate pursuant to an actuarial valuation in accordance with the pension funding policy of the TCRS Board of Trustees and as required to be paid by state statute. Based on these assumptions and the actuarial methodology adopted, the employer's fiduciary net position is expected to remain positive and to be available to make projected future benefit payments of current active and inactive members and to cover administrative expenses. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Actuarial Valuation Method

All liabilities and normal costs shown in this report are calculated based on the Entry Age Normal method.

Asset Valuation Method

Fair Market Value

Amortization Method for GASB Statement No. 68

Level Dollar

Amortization Period for GASB Statement No. 68

Investment gains or losses are amortized over five years. Experience gains or losses and changes in actuarial assumptions are amortized over the average working lifetime of all participants. Plan amendments are recognized immediately.

Additional Assumptions

Please refer to the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013 for a complete summary of actuarial assumptions.

Selection of Assumptions

The TCRS Board of Trustees selected the assumptions described above based on the review of plan experience in conjunction with an experience study conducted as of June 30, 2012. A complete plan experience study is conducted every four years.

GASB Statement No. 68

This section presents specific information required under Statement No. 68. The information in this report is to satisfy the employer reporting for the pension plan. This section contains the following:

- Summary of Key Actuarial Assumptions for Statement No. 68
- Employees Covered by Benefit Terms at June 30, 2014
- Contributions
- Schedule of Changes in the Net Pension Liability (Asset)
- Sensitivity of Net Pension Liability (Asset) to Changes in the Discount Rate
- Pension Expense (Income) and Deferred Outflows/Inflows of Resources
- Schedule of Changes in Net Pension Liability (Asset) and Related Ratios
- Schedule of Contributions

Fiduciary Net Position is the amount of assets available for benefits in the Pension Plan.

Total Pension Liability is the plan liability determined using assumptions listed in the Summary of Actuarial Assumptions.

Net Pension Liability (Asset) is the difference in the Total Pension Liability and the Fiduciary Net Position.

Summary of Key Actuarial Assumptions for GASB Statement No. 68

Reporting Date	June 30, 2015
Measurement Date	June 30, 2014
Actuarial Valuation Date	June 30, 2014
Actuarial cost method	Entry Age Normal
Amortization method	Level dollar
Asset valuation method	Fair market value
Inflation	3.0 percent
Salary increases	Graded salary ranges from 8.97 to 3.71 percent based on age, including inflation, averaging 4.25 percent
Investment rate of return	7.5 percent, net of investment expense, including inflation
Retirement age	Pattern of retirement determined by experience study
Mortality	Customized table based on actual experience including an adjustment for some anticipated improvement
Cost of living adjustments	2.5 percent, if provided

Employees Covered by Benefit Terms at June 30, 2014

Inactive employees or beneficiaries currently receiving benefits	0
Inactive employees entitled to but not yet receiving benefits	0
Active employees	19
Total	19

A complete summary of the census data utilized in this report is available upon request.

Contributions

June 30, 2014 employer contributions	$6,909
Employer contribution rate	5.90%

Schedule of Changes in Net Pension Liability (Asset)

	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (Asset) (a) - (b)
Balance at June 30, 2013	$0	$36,375	$(36,375)
Service cost	0		0
Interest	0		0
Differences between expected and actual experience	5,001		5,001
Contributions-employer		6,909	(6,909)
Contributions-employee		0	0
Net investment income		6,574	(6,574)
Benefit payments, including refunds of employee contributions	0	0	
Administrative expense		(315)	315
Net changes	5,001	13,168	(8,167)
Balance at June 30, 2014	$5,001	$49,543	$(44,542)

Sensitivity of Net Pension Liability (Asset) to Changes in the Discount Rate

The following represents the net pension liability (asset) calculated using the stated discount rate, as well as what the net pension liability (asset) would be if it were calculated using a discount rate that is 1-percentage-point lower or 1-percentage-point higher than the current rate:

	1% Decrease (6.50%)	Current Rate (7.50%)	1% Increase (8.50%)
Net Pension Liability (Asset)	$(43,250)	$(44,542)	$(45,522)

Pension Expense (Income) and Deferred Outflows/Inflows of Resources

	Pension Expense (Income)
Service cost	$0
Interest	0
Contributions-employees	0
Projected investment income	(2,975)
Recognition of experience (gain)/loss	385
Recognition of investment (gain)/loss	(720)
Administrative expense	315
Pension Expense (Income)	$(2,995)

For the year ended June 30, 2015, the recognized pension expense (income) is $(2,995). At June 30, 2015, deferred outflows of resources and deferred inflows of resources related to pensions are from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$4,616	$0
Changes of assumptions	0	0
Net difference between projected and actual earnings of pension plan investments	0	2,879
Total	$4,616	$2,879

Amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

Year ended June 30:	Outflows (a)	Inflows (b)	Amount Reported (a) + (b)
2015	$385	$(720)	$(335)
2016	385	(720)	(335)
2017	385	(720)	(335)
2018	385	(720)	(335)
2019	385	(720)	(335)
2020	385	0	385
Thereafter	2,695	0	2,695

Development of Deferred Outflows and Deferred Inflows

	Original Amount	Date Established	Original Period	Amount Recognized in Expense	Deferred Outflow Amount	Deferred Inflow Amount
Experience (gains) / losses	$5,001	6/30/2015	13	$385	$4,616	$(0)
		Total		$385	$4,616	$(0)
Investment (gains) / losses	$(3,599)	6/30/2015	5	$(720)	$0	$(2,879)
		Total		$(720)	$0	$(2,879)
Assumption changes	$0	6/30/2015	0	$0	$0	$(0)
		Total		$0	$0	$(0)

Schedule of Changes in the Net Pension Liability (Asset) and Related Ratios

for fiscal year ending June 30, 2015 (year shown is measurement date)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total Pension Liability										
Service cost	$0									
Interest	0									
Changes of benefit terms	0									
Differences between expected and actual experience	5,001									
Changes of assumptions	0									
Benefit Payments, including refunds of employee contributions	0									
Net Change in Total Pension Liability (Asset)	5,001									
Total Pension Liability (Asset) - beginning	0									
Total Pension Liability (Asset) - ending (a)	$5,001									
Plan Fiduciary Net Position										
Contributions - employer	$6,909									
Contributions - employee	0									
Net investment income	6,574									
Benefit Payments, including refunds of employee contributions	0									
Administrative expenses	(315)									
Other	0									
Net Change in Plan Fiduciary Net Position	$13,168									
Plan Fiduciary Net Position - beginning	36,375									
Plan Fiduciary Net Position - ending (b)	$49,543									
Net Pension Liability (Asset) - ending (a) - (b)	$(44,542)									
Plan Fiduciary Net Position as a % of the Total Pension Liability	990.66%									
Covered-employee payroll	$117,100									
Net Pension Liability (Asset) as a % of covered-employee payroll	(38.04%)									

Schedule of Contributions

	fiscal year ending June 30									
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Actuarially determined contribution	$6,909									
Contributions in relation to the actuarially determined contribution	6,909									
Contribution deficiency (excess)	$0									
Covered-employee payroll	$117,100									
Contributions as a percentage of covered-employee payroll	5.90%									

Notes to the Schedule Relating to the Actuarially Determined Contribution

Employer contributions for the year ended June 30, 2015 are based on the results of the July 1, 2013 actuarial valuation. Accordingly, governmental employers utilize the following notes to the schedule relating to the Actuarially Determined Contributions when presenting 2015. If 2015 is not presented, then a separate set of notes would apply.

Actuarial cost method	Frozen initial liability
Amortization method	Level dollar, closed (not to exceed 20 years)
Remaining amortization period	n/a years
Asset valuation method	10-year smoothed within a 20 percent corridor to market value
Inflation	3.0 percent
Salary increases	Graded salary ranges from 8.97 to 3.71 percent based on age, including inflation, averaging 4.25 percent
Investment rate of return	7.5 percent, net of investment expense, including inflation
Retirement age	Pattern of retirement determined by experience study
Mortality	Customized table based on actual experience including an adjustment for some anticipated improvement
Cost of living adjustments	2.5 percent, if provided

Bryan, Pendleton, Swats & McAllister, LLC
A Wells Fargo Company

Tennessee Consolidated Retirement System

TRI CITIES REGIONAL AIRPORT-HYBRID PLAN

GASB Statement No. 68

Actuarial Report
Reporting Date: June 30, 2015

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Accounting Governance Background

Statement No. 27 of the Governmental Accounting Standards Board was amended by Statement No. 68 of the Governmental Accounting Standards Board. Statement No. 68 became effective for employer financial statements for the fiscal year beginning after June 15, 2014. Statement No. 68 establishes financial reporting standards for state and local government employers with pension plans that are administered through trusts or equivalent arrangements. The objective of this statement is to improve the usefulness of the information included in employer financial statements.

Purpose and Use

This report has been prepared exclusively for the Tennessee Consolidated Retirement System. Actuarial computations under Statement No. 68 are for purposes of fulfilling employer governmental accounting requirements, and may not be appropriate for other purposes. The calculations reported herein have been made on a basis consistent with our understanding of the statement. Bryan, Pendleton, Swats & McAllister, LLC is not responsible for consequences resulting from the use of any part of this report without prior authorization or approval. This report provides actuarial advice and does not constitute legal, accounting, tax or investment advice. Determinations for other purposes, such as funding, bond ratings, or judging benefit security, may be significantly different from the results shown in this report.

Actuarial findings in this report are based on actuarial assumptions which reflect expected plan experience. Although the deviation of the actual future plan experience and the expected experience inherently creates some uncertainty with the results, in our opinion the actuarial assumptions reasonably reflect the expected future experience of the plan. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. All of these factors can cause volatility in the Net Pension Liability (Asset) over time.

Data

The calculations shown in this report have been prepared using employee data (including covered-employee payroll) and plan documentation furnished by the Tennessee Consolidated Retirement System as of June 30, 2014. Plan asset information was furnished by the Tennessee Consolidated Retirement System for the twelve month period ending June 30, 2014. While we have not audited the data, we have reviewed it for reasonableness and internal consistency. We have made reasonable assumptions with regard to any incomplete records, and to the best of our knowledge, there are no material limitations to the data provided. A complete summary of the census data utilized in this report is available upon request.

Subsequent Events

We are unaware of any subsequent event after June 30, 2015 which would have a material effect on the results presented in this report.

Assumptions, Methods, and Procedures

The results presented in this report comply with the assumptions, methods, and procedures under Statement No. 68. The results are based on a June 30, 2014 actuarial valuation date, a measurement date of June 30, 2014 and a reporting date of June 30, 2015. All assumptions are selected by the TCRS Board of Trustees. Statement No. 68 mandates the use of the Entry Age Normal actuarial funding method.

Changes in Plan Provisions, Actuarial Assumptions, and Actuarial Methods

No changes were made to the plan provisions, actuarial assumptions and methods at the June 30, 2014 actuarial valuation date compared to the most recent funding valuation completed as of July 1, 2013.

Summaries of the plan provisions and actuarial assumptions can be found in the Basis for Valuation section of this report and in the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013.

Professional Qualifications

This report has been prepared under the supervision of Justin C. Thacker, a member of the American Academy of Actuaries, a Fellow of the Society of Actuaries, and a consulting actuary with Bryan, Pendleton, Swats and McAllister, LLC, who has met the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions herein. To the best of our knowledge this report has been prepared in accordance with generally accepted actuarial standards and our understanding of Government Accounting Standards Board Statement No. 68, including the overall appropriateness of the analysis, assumptions, and results and conforms to appropriate Standards of Practice as promulgated from time to time by the Actuarial Standards Board, which standards form the basis for the actuarial report. We are not aware of any direct or material indirect financial interest or relationship that could create, or appear to create, a conflict of interest that would impair the objectivity of our work. The undersigned are available to provide supplemental information or explanation.

Justin Thacker

Justin C. Thacker
Fellow, Society of Actuaries
Enrollment No. 14-6078
Phone 615.665.5387

October 15, 2015
Date

Tim Lavender

Tim C. Lavender
Fellow, Society of Actuaries
Enrollment No. 14-6745
Phone 615.665.5305

October 15, 2015
Date

Summary of Plan Provisions

The actuarial valuation includes all benefits provided by the Tennessee Consolidated Retirement System to the current active and inactive plan members. Benefit provisions include retirement, death and disability benefits. If applicable, post-retirement cost of living adjustments are included. Please refer to the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013 for a complete summary of plan provisions.

Summary of Actuarial Assumptions and Methods

Investment Rate of Return

7.5 percent per annum, compounded annually

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees in conjunction with the June 30, 2012 actuarial experience study by considering the following three techniques: (1) the 25-year historical return of the TCRS at June 30, 2012, (2) the historical market returns of asset classes from 1926 to 2012 using the TCRS investment policy asset allocation, and (3) capital market projections that were utilized as a building-block method in which best-estimate ranges of expected future real rate of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. Four sources of capital market projections were blended and utilized in the third technique. The blended capital market projection established the long-term expected rate of return by weighting the expected future real rate of return by the target asset allocation percentage and by adding inflation of 3 percent. The target allocation and best estimates of arithmetic real rates of return for each major asset class are summarized in the following table:

Asset Class	**Long-Term Expected Real Rate of Return**	**Target Allocations**
U.S. equity	6.46%	33%
Developed market international equity	6.26%	17%
Emerging market international equity	6.40%	5%
Private equity and strategic lending	4.61%	8%
U.S. fixed income	0.98%	29%
Real estate	4.73%	7%
Short-term securities	0.00%	1%
		100%

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees as 7.5 percent based on a blending of the three techniques described above.

Discount Rate

7.5 percent per annum, compounded annually

Paragraph 29 of Statement No. 68 provides for an alternative method to be used other than the projection of the pension plan's fiduciary net position based on projected contributions, benefit payments and investment earnings. The current contribution policy requires contributions of the normal cost plus a closed amortization of the unfunded liabilities (not to exceed 30 years from when the unfunded liability was created). In addition, the employer has a documented history of contributing 100 percent of the actuarially determined contribution requirement. The discount rate utilized assumes that employee contributions will be made at the current applicable rate and that contributions from the employer will be made at the actuarially determined contribution rate pursuant to an actuarial valuation in accordance with the pension funding policy of the TCRS Board of Trustees and as required to be paid by state statute. Based on these assumptions and the actuarial methodology adopted, the employer's fiduciary net position is expected to remain positive and to be available to make projected future benefit payments of current active and inactive members and to cover administrative expenses. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Actuarial Valuation Method

All liabilities and normal costs shown in this report are calculated based on the Entry Age Normal method.

Asset Valuation Method

Fair Market Value

Amortization Method for GASB Statement No. 68

Level Dollar

Amortization Period for GASB Statement No. 68

Investment gains or losses are amortized over five years. Experience gains or losses and changes in actuarial assumptions are amortized over the average working lifetime of all participants. Plan amendments are recognized immediately.

Additional Assumptions

Please refer to the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013 for a complete summary of actuarial assumptions.

Selection of Assumptions

The TCRS Board of Trustees selected the assumptions described above based on the review of plan experience in conjunction with an experience study conducted as of June 30, 2012. A complete plan experience study is conducted every four years.

GASB Statement No. 68

This section presents specific information required under Statement No. 68. The information in this report is to satisfy the employer reporting for the pension plan. This section contains the following:

- Summary of Key Actuarial Assumptions for Statement No. 68
- Employees Covered by Benefit Terms at June 30, 2014
- Contributions
- Schedule of Changes in the Net Pension Liability (Asset)
- Sensitivity of Net Pension Liability (Asset) to Changes in the Discount Rate
- Pension Expense (Income) and Deferred Outflows/Inflows of Resources
- Schedule of Changes in Net Pension Liability (Asset) and Related Ratios
- Schedule of Contributions

Fiduciary Net Position is the amount of assets available for benefits in the Pension Plan.

Total Pension Liability is the plan liability determined using assumptions listed in the Summary of Actuarial Assumptions.

Net Pension Liability (Asset) is the difference in the Total Pension Liability and the Fiduciary Net Position.

Summary of Key Actuarial Assumptions for GASB Statement No. 68

Reporting Date	June 30, 2015
Measurement Date	June 30, 2014
Actuarial Valuation Date	June 30, 2014
Actuarial cost method	Entry Age Normal
Amortization method	Level dollar
Asset valuation method	Fair market value
Inflation	3.0 percent
Salary increases	Graded salary ranges from 8.97 to 3.71 percent based on age, including inflation, averaging 4.25 percent
Investment rate of return	7.5 percent, net of investment expense, including inflation
Retirement age	Pattern of retirement determined by experience study
Mortality	Customized table based on actual experience including an adjustment for some anticipated improvement
Cost of living adjustments	2.5 percent, if provided

Employees Covered by Benefit Terms at June 30, 2014

Inactive employees or beneficiaries currently receiving benefits	0
Inactive employees entitled to but not yet receiving benefits	0
Active employees	6
Total	6

A complete summary of the census data utilized in this report is available upon request.

Contributions

June 30, 2014 employer contributions	$13,022
Employer contribution rate	5.90%

Schedule of Changes in Net Pension Liability (Asset)

	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (Asset) (a) - (b)
Balance at June 30, 2013	$0	$0	$0
Service cost	4,222		4,222
Interest	317		317
Differences between expected and actual experience	2,634		2,634
Contributions-employer		13,022	(13,022)
Contributions-employee		0	0
Net investment income		1,065	(1,065)
Benefit payments, including refunds of employee contributions	0	0	
Administrative expense		(175)	175
Net changes	7,173	13,912	(6,739)
Balance at June 30, 2014	$7,173	$13,912	$(6,739)

Sensitivity of Net Pension Liability (Asset) to Changes in the Discount Rate

The following represents the net pension liability (asset) calculated using the stated discount rate, as well as what the net pension liability (asset) would be if it were calculated using a discount rate that is 1-percentage-point lower or 1-percentage-point higher than the current rate:

	1% Decrease (6.50%)	Current Rate (7.50%)	1% Increase (8.50%)
Net Pension Liability (Asset)	$(5,328)	$(6,739)	$(7,886)

Pension Expense (Income) and Deferred Outflows/Inflows of Resources

	Pension Expense (Income)
Service cost	$4,222
Interest	317
Contributions-employees	0
Projected investment income	(482)
Recognition of experience (gain)/loss	203
Recognition of investment (gain)/loss	(117)
Administrative expense	175
Pension Expense (Income)	$4,318

For the year ended June 30, 2015, the recognized pension expense (income) is $4,318. At June 30, 2015, deferred outflows of resources and deferred inflows of resources related to pensions are from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$2,431	$0
Changes of assumptions	0	0
Net difference between projected and actual earnings of pension plan investments	0	466
Total	$2,431	$466

Amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

Year ended June 30:	Outflows (a)	Inflows (b)	Amount Reported (a) + (b)
2015	$203	$(117)	$86
2016	203	(117)	86
2017	203	(117)	86
2018	203	(117)	86
2019	203	(117)	86
2020	203	0	203
Thereafter	1,421	0	1,421

Development of Deferred Outflows and Deferred Inflows

	Original Amount	Date Established	Original Period	Amount Recognized in Expense	Deferred Outflow Amount	Deferred Inflow Amount
Experience (gains) / losses	$2,634	6/30/2015	13	$203	$2,431	$(0)
		Total		$203	$2,431	$(0)
Investment (gains) / losses	$(583)	6/30/2015	5	$(117)	$0	$(466)
		Total		$(117)	$0	$(466)
Assumption changes	$0	6/30/2015	0	$0	$0	$(0)
		Total		$0	$0	$(0)

Schedule of Changes in the Net Pension Liability (Asset) and Related Ratios

for fiscal year ending June 30, 2015 (year shown is measurement date)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total Pension Liability										
Service cost	$4,222									
Interest	317									
Changes of benefit terms	0									
Differences between expected and actual experience	2,634									
Changes of assumptions	0									
Benefit Payments, including refunds of employee contributions	0									
Net Change in Total Pension Liability (Asset)	7,173									
Total Pension Liability (Asset) - beginning	0									
Total Pension Liability (Asset) - ending (a)	$7,173									
Plan Fiduciary Net Position										
Contributions - employer	$13,022									
Contributions - employee	0									
Net investment income	1,065									
Benefit Payments, including refunds of employee contributions	0									
Administrative expenses	(175)									
Other	0									
Net Change in Plan Fiduciary Net Position	$13,912									
Plan Fiduciary Net Position - beginning	0									
Plan Fiduciary Net Position - ending (b)	$13,912									
Net Pension Liability (Asset) - ending (a) - (b)	$(6,739)									
Plan Fiduciary Net Position as a % of the Total Pension Liability	193.95%									
Covered-employee payroll	$220,720									
Net Pension Liability (Asset) as a % of covered-employee payroll	(3.05%)									

Schedule of Contributions

	fiscal year ending June 30									
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Actuarially determined contribution	$13,022									
Contributions in relation to the actuarially determined contribution	13,022									
Contribution deficiency (excess)	$0									
Covered-employee payroll	$220,720									
Contributions as a percentage of covered-employee payroll	5.90%									

Notes to the Schedule Relating to the Actuarially Determined Contribution

Employer contributions for the year ended June 30, 2015 are based on the results of the July 1, 2013 actuarial valuation. Accordingly, governmental employers utilize the following notes to the schedule relating to the Actuarially Determined Contributions when presenting 2015. If 2015 is not presented, then a separate set of notes would apply.

Actuarial cost method	Frozen initial liability
Amortization method	Level dollar, closed (not to exceed 20 years)
Remaining amortization period	n/a years
Asset valuation method	10-year smoothed within a 20 percent corridor to market value
Inflation	3.0 percent
Salary increases	Graded salary ranges from 8.97 to 3.71 percent based on age, including inflation, averaging 4.25 percent
Investment rate of return	7.5 percent, net of investment expense, including inflation
Retirement age	Pattern of retirement determined by experience study
Mortality	Customized table based on actual experience including an adjustment for some anticipated improvement
Cost of living adjustments	2.5 percent, if provided

Bryan, Pendleton, Swats & McAllister, LLC
A Wells Fargo Company

Tennessee Consolidated Retirement System

CITY OF OAK HILL-HYBRID PLAN 3

GASB Statement No. 68

Actuarial Report

Reporting Date: June 30, 2015

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Accounting Governance Background

Statement No. 27 of the Governmental Accounting Standards Board was amended by Statement No. 68 of the Governmental Accounting Standards Board. Statement No. 68 became effective for employer financial statements for the fiscal year beginning after June 15, 2014. Statement No. 68 establishes financial reporting standards for state and local government employers with pension plans that are administered through trusts or equivalent arrangements. The objective of this statement is to improve the usefulness of the information included in employer financial statements.

Purpose and Use

This report has been prepared exclusively for the Tennessee Consolidated Retirement System. Actuarial computations under Statement No. 68 are for purposes of fulfilling employer governmental accounting requirements, and may not be appropriate for other purposes. The calculations reported herein have been made on a basis consistent with our understanding of the statement. Bryan, Pendleton, Swats & McAllister, LLC is not responsible for consequences resulting from the use of any part of this report without prior authorization or approval. This report provides actuarial advice and does not constitute legal, accounting, tax or investment advice. Determinations for other purposes, such as funding, bond ratings, or judging benefit security, may be significantly different from the results shown in this report.

Actuarial findings in this report are based on actuarial assumptions which reflect expected plan experience. Although the deviation of the actual future plan experience and the expected experience inherently creates some uncertainty with the results, in our opinion the actuarial assumptions reasonably reflect the expected future experience of the plan. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan’s funded status); and changes in plan provisions or applicable law. All of these factors can cause volatility in the Net Pension Liability (Asset) over time.

Data

The calculations shown in this report have been prepared using employee data (including covered-employee payroll) and plan documentation furnished by the Tennessee Consolidated Retirement System as of June 30, 2014. Plan asset information was furnished by the Tennessee Consolidated Retirement System for the twelve month period ending June 30, 2014. While we have not audited the data, we have reviewed it for reasonableness and internal consistency. We have made reasonable assumptions with regard to any incomplete records, and to the best of our knowledge, there are no material limitations to the data provided. A complete summary of the census data utilized in this report is available upon request.

Subsequent Events

We are unaware of any subsequent event after June 30, 2015 which would have a material effect on the results presented in this report.

Assumptions, Methods, and Procedures

The results presented in this report comply with the assumptions, methods, and procedures under Statement No. 68. The results are based on a June 30, 2014 actuarial valuation date, a measurement date of June 30, 2014 and a reporting date of June 30, 2015. All assumptions are selected by the TCRS Board of Trustees. Statement No. 68 mandates the use of the Entry Age Normal actuarial funding method.

Changes in Plan Provisions, Actuarial Assumptions, and Actuarial Methods

No changes were made to the plan provisions, actuarial assumptions and methods at the June 30, 2014 actuarial valuation date compared to the most recent funding valuation completed as of July 1, 2013.

Summaries of the plan provisions and actuarial assumptions can be found in the Basis for Valuation section of this report and in the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013.

Professional Qualifications

This report has been prepared under the supervision of Justin C. Thacker, a member of the American Academy of Actuaries, a Fellow of the Society of Actuaries, and a consulting actuary with Bryan, Pendleton, Swats and McAllister, LLC, who has met the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions herein. To the best of our knowledge this report has been prepared in accordance with generally accepted actuarial standards and our understanding of Government Accounting Standards Board Statement No. 68, including the overall appropriateness of the analysis, assumptions, and results and conforms to appropriate Standards of Practice as promulgated from time to time by the Actuarial Standards Board, which standards form the basis for the actuarial report. We are not aware of any direct or material indirect financial interest or relationship that could create, or appear to create, a conflict of interest that would impair the objectivity of our work. The undersigned are available to provide supplemental information or explanation.

Justin C. Thacker Fellow, Society of Actuaries Enrollment No. 14-6078 Phone 615.665.5387	October 15, 2015 Date
Tim C. Lavender Fellow, Society of Actuaries Enrollment No. 14-6745 Phone 615.665.5305	October 15, 2015 Date

Summary of Plan Provisions

The actuarial valuation includes all benefits provided by the Tennessee Consolidated Retirement System to the current active and inactive plan members. Benefit provisions include retirement, death and disability benefits. If applicable, post-retirement cost of living adjustments are included. Please refer to the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013 for a complete summary of plan provisions.

Summary of Actuarial Assumptions and Methods

Investment Rate of Return

7.5 percent per annum, compounded annually

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees in conjunction with the June 30, 2012 actuarial experience study by considering the following three techniques: (1) the 25-year historical return of the TCRS at June 30, 2012, (2) the historical market returns of asset classes from 1926 to 2012 using the TCRS investment policy asset allocation, and (3) capital market projections that were utilized as a building-block method in which best-estimate ranges of expected future real rate of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. Four sources of capital market projections were blended and utilized in the third technique. The blended capital market projection established the long-term expected rate of return by weighting the expected future real rate of return by the target asset allocation percentage and by adding inflation of 3 percent. The target allocation and best estimates of arithmetic real rates of return for each major asset class are summarized in the following table:

Asset Class	**Long-Term Expected Real Rate of Return**	**Target Allocations**
U.S. equity	6.46%	33%
Developed market international equity	6.26%	17%
Emerging market international equity	6.40%	5%
Private equity and strategic lending	4.61%	8%
U.S. fixed income	0.98%	29%
Real estate	4.73%	7%
Short-term securities	0.00%	1%
		100%

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees as 7.5 percent based on a blending of the three techniques described above.

Discount Rate

7.5 percent per annum, compounded annually

Paragraph 29 of Statement No. 68 provides for an alternative method to be used other than the projection of the pension plan's fiduciary net position based on projected contributions, benefit payments and investment earnings. The current contribution policy requires contributions of the normal cost plus a closed amortization of the unfunded liabilities (not to exceed 30 years from when the unfunded liability was created). In addition, the employer has a documented history of contributing 100 percent of the actuarially determined contribution requirement. The discount rate utilized assumes that employee contributions will be made at the current applicable rate and that contributions from the employer will be made at the actuarially determined contribution rate pursuant to an actuarial valuation in accordance with the pension funding policy of the TCRS Board of Trustees and as required to be paid by state statute. Based on these assumptions and the actuarial methodology adopted, the employer's fiduciary net position is expected to remain positive and to be available to make projected future benefit payments of current active and inactive members and to cover administrative expenses. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Actuarial Valuation Method

All liabilities and normal costs shown in this report are calculated based on the Entry Age Normal method.

Asset Valuation Method

Fair Market Value

Amortization Method for GASB Statement No. 68

Level Dollar

Amortization Period for GASB Statement No. 68

Investment gains or losses are amortized over five years. Experience gains or losses and changes in actuarial assumptions are amortized over the average working lifetime of all participants. Plan amendments are recognized immediately.

Additional Assumptions

Please refer to the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013 for a complete summary of actuarial assumptions.

Selection of Assumptions

The TCRS Board of Trustees selected the assumptions described above based on the review of plan experience in conjunction with an experience study conducted as of June 30, 2012. A complete plan experience study is conducted every four years.

GASB Statement No. 68

This section presents specific information required under Statement No. 68. The information in this report is to satisfy the employer reporting for the pension plan. This section contains the following:

- Summary of Key Actuarial Assumptions for Statement No. 68
- Employees Covered by Benefit Terms at June 30, 2014
- Contributions
- Schedule of Changes in the Net Pension Liability (Asset)
- Sensitivity of Net Pension Liability (Asset) to Changes in the Discount Rate
- Pension Expense (Income) and Deferred Outflows/Inflows of Resources
- Schedule of Changes in Net Pension Liability (Asset) and Related Ratios
- Schedule of Contributions

Fiduciary Net Position is the amount of assets available for benefits in the Pension Plan.

Total Pension Liability is the plan liability determined using assumptions listed in the Summary of Actuarial Assumptions.

Net Pension Liability (Asset) is the difference in the Total Pension Liability and the Fiduciary Net Position.

Summary of Key Actuarial Assumptions for GASB Statement No. 68

Reporting Date	June 30, 2015
Measurement Date	June 30, 2014
Actuarial Valuation Date	June 30, 2014
Actuarial cost method	Entry Age Normal
Amortization method	Level dollar
Asset valuation method	Fair market value
Inflation	3.0 percent
Salary increases	Graded salary ranges from 8.97 to 3.71 percent based on age, including inflation, averaging 4.25 percent
Investment rate of return	7.5 percent, net of investment expense, including inflation
Retirement age	Pattern of retirement determined by experience study
Mortality	Customized table based on actual experience including an adjustment for some anticipated improvement
Cost of living adjustments	2.5 percent, if provided

Employees Covered by Benefit Terms at June 30, 2014

Inactive employees or beneficiaries currently receiving benefits	0
Inactive employees entitled to but not yet receiving benefits	5
Active employees	4
Total	9

A complete summary of the census data utilized in this report is available upon request.

Contributions

June 30, 2014 employer contributions	$3,719
Employer contribution rate	2.13%

Schedule of Changes in Net Pension Liability (Asset)

	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (Asset) (a) - (b)
Balance at June 30, 2013	$0	$46,903	$(46,903)
Service cost	0		0
Interest	0		0
Differences between expected and actual experience	7,680		7,680
Contributions-employer		3,719	(3,719)
Contributions-employee		78,897	(78,897)
Net investment income		14,605	(14,605)
Benefit payments, including refunds of employee contributions	0	0	
Administrative expense		(137)	137
Net changes	7,680	97,084	(89,404)
Balance at June 30, 2014	$7,680	$143,987	$(136,307)

Sensitivity of Net Pension Liability (Asset) to Changes in the Discount Rate

The following represents the net pension liability (asset) calculated using the stated discount rate, as well as what the net pension liability (asset) would be if it were calculated using a discount rate that is 1-percentage-point lower or 1-percentage-point higher than the current rate:

	1% Decrease (6.50%)	Current Rate (7.50%)	1% Increase (8.50%)
Net Pension Liability (Asset)	$(135,278)	$(136,307)	$(137,228)

Pension Expense (Income) and Deferred Outflows/Inflows of Resources

	Pension Expense (Income)
Service cost	$0
Interest	0
Contributions-employees	(78,897)
Projected investment income	(6,611)
Recognition of experience (gain)/loss	1,536
Recognition of investment (gain)/loss	(1,599)
Administrative expense	137
Pension Expense (Income)	$(85,434)

For the year ended June 30, 2015, the recognized pension expense (income) is $(85,434). At June 30, 2015, deferred outflows of resources and deferred inflows of resources related to pensions are from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$6,144	$0
Changes of assumptions	0	0
Net difference between projected and actual earnings of pension plan investments	0	6,395
Total	$6,144	$6,395

Amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

Year ended June 30:	Outflows (a)	Inflows (b)	Amount Reported (a) + (b)
2015	$1,536	$(1,599)	$(63)
2016	1,536	(1,599)	(63)
2017	1,536	(1,599)	(63)
2018	1,536	(1,599)	(63)
2019	1,536	(1,599)	(63)
2020	0	0	0
Thereafter	0	0	0

Development of Deferred Outflows and Deferred Inflows

	Original Amount	Date Established	Original Period	Amount Recognized in Expense	Deferred Outflow Amount	Deferred Inflow Amount
Experience (gains) / losses	$7,680	6/30/2015	5	$1,536	$6,144	$(0)
		Total		$1,536	$6,144	$(0)
Investment (gains) / losses	$(7,994)	6/30/2015	5	$(1,599)	$0	$(6,395)
		Total		$(1,599)	$0	$(6,395)
Assumption changes	$0	6/30/2015	0	$0	$0	$(0)
		Total		$0	$0	$(0)

Schedule of Changes in the Net Pension Liability (Asset) and Related Ratios

for fiscal year ending June 30, 2015 (year shown is measurement date)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total Pension Liability										
Service cost	$0									
Interest	0									
Changes of benefit terms	0									
Differences between expected and actual experience	7,680									
Changes of assumptions	0									
Benefit Payments, including refunds of employee contributions	0									
Net Change in Total Pension Liability (Asset)	7,680									
Total Pension Liability (Asset) - beginning	0									
Total Pension Liability (Asset) - ending (a)	$7,680									
Plan Fiduciary Net Position										
Contributions - employer	$3,719									
Contributions - employee	78,897									
Net investment income	14,605									
Benefit Payments, including refunds of employee contributions	0									
Administrative expenses	(137)									
Other	0									
Net Change in Plan Fiduciary Net Position	$97,084									
Plan Fiduciary Net Position - beginning	46,903									
Plan Fiduciary Net Position - ending (b)	$143,987									
Net Pension Liability (Asset) - ending (a) - (b)	$(136,307)									
Plan Fiduciary Net Position as a % of the Total Pension Liability	1874.83%									
Covered-employee payroll	$174,586									
Net Pension Liability (Asset) as a % of covered-employee payroll	(78.07%)									

Schedule of Contributions

	fiscal year ending June 30									
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Actuarially determined contribution	$3,719									
Contributions in relation to the actuarially determined contribution	3,719									
Contribution deficiency (excess)	$0									
Covered-employee payroll	$174,586									
Contributions as a percentage of covered-employee payroll	2.13%									

Notes to the Schedule Relating to the Actuarially Determined Contribution

Employer contributions for the year ended June 30, 2015 are based on the results of the July 1, 2013 actuarial valuation. Accordingly, governmental employers utilize the following notes to the schedule relating to the Actuarially Determined Contributions when presenting 2015. If 2015 is not presented, then a separate set of notes would apply.

Actuarial cost method	Frozen initial liability
Amortization method	Level dollar, closed (not to exceed 20 years)
Remaining amortization period	n/a years
Asset valuation method	10-year smoothed within a 20 percent corridor to market value
Inflation	3.0 percent
Salary increases	Graded salary ranges from 8.97 to 3.71 percent based on age, including inflation, averaging 4.25 percent
Investment rate of return	7.5 percent, net of investment expense, including inflation
Retirement age	Pattern of retirement determined by experience study
Mortality	Customized table based on actual experience including an adjustment for some anticipated improvement
Cost of living adjustments	2.5 percent, if provided

BPS&M
Bryan, Pendleton, Swats & McAllister, LLC
A Wells Fargo Company

Tennessee Consolidated Retirement System

ROAN MOUNTAIN UTILITY DISTRICT

GASB Statement No. 68

Actuarial Report
Reporting Date: June 30, 2015

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Accounting Governance Background

Statement No. 27 of the Governmental Accounting Standards Board was amended by Statement No. 68 of the Governmental Accounting Standards Board. Statement No. 68 became effective for employer financial statements for the fiscal year beginning after June 15, 2014. Statement No. 68 establishes financial reporting standards for state and local government employers with pension plans that are administered through trusts or equivalent arrangements. The objective of this statement is to improve the usefulness of the information included in employer financial statements.

Purpose and Use

This report has been prepared exclusively for the Tennessee Consolidated Retirement System. Actuarial computations under Statement No. 68 are for purposes of fulfilling employer governmental accounting requirements, and may not be appropriate for other purposes. The calculations reported herein have been made on a basis consistent with our understanding of the statement. Bryan, Pendleton, Swats & McAllister, LLC is not responsible for consequences resulting from the use of any part of this report without prior authorization or approval. This report provides actuarial advice and does not constitute legal, accounting, tax or investment advice. Determinations for other purposes, such as funding, bond ratings, or judging benefit security, may be significantly different from the results shown in this report.

Actuarial findings in this report are based on actuarial assumptions which reflect expected plan experience. Although the deviation of the actual future plan experience and the expected experience inherently creates some uncertainty with the results, in our opinion the actuarial assumptions reasonably reflect the expected future experience of the plan. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. All of these factors can cause volatility in the Net Pension Liability (Asset) over time.

Data

The calculations shown in this report have been prepared using employee data (including covered-employee payroll) and plan documentation furnished by the Tennessee Consolidated Retirement System as of June 30, 2014. Plan asset information was furnished by the Tennessee Consolidated Retirement System for the twelve month period ending June 30, 2014. While we have not audited the data, we have reviewed it for reasonableness and internal consistency. We have made reasonable assumptions with regard to any incomplete records, and to the best of our knowledge, there are no material limitations to the data provided. A complete summary of the census data utilized in this report is available upon request.

Subsequent Events

We are unaware of any subsequent event after June 30, 2015 which would have a material effect on the results presented in this report.

Assumptions, Methods, and Procedures

The results presented in this report comply with the assumptions, methods, and procedures under Statement No. 68. The results are based on a June 30, 2014 actuarial valuation date, a measurement date of June 30, 2014 and a reporting date of June 30, 2015. All assumptions are selected by the TCRS Board of Trustees. Statement No. 68 mandates the use of the Entry Age Normal actuarial funding method.

Changes in Plan Provisions, Actuarial Assumptions, and Actuarial Methods

No changes were made to the plan provisions, actuarial assumptions and methods at the June 30, 2014 actuarial valuation date compared to the most recent funding valuation completed as of July 1, 2013.

Summaries of the plan provisions and actuarial assumptions can be found in the Basis for Valuation section of this report and in the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013.

Professional Qualifications

This report has been prepared under the supervision of Justin C. Thacker, a member of the American Academy of Actuaries, a Fellow of the Society of Actuaries, and a consulting actuary with Bryan, Pendleton, Swats and McAllister, LLC, who has met the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions herein. To the best of our knowledge this report has been prepared in accordance with generally accepted actuarial standards and our understanding of Government Accounting Standards Board Statement No. 68, including the overall appropriateness of the analysis, assumptions, and results and conforms to appropriate Standards of Practice as promulgated from time to time by the Actuarial Standards Board, which standards form the basis for the actuarial report. We are not aware of any direct or material indirect financial interest or relationship that could create, or appear to create, a conflict of interest that would impair the objectivity of our work. The undersigned are available to provide supplemental information or explanation.

Justin Thacker

Justin C. Thacker
Fellow, Society of Actuaries
Enrollment No. 14-6078
Phone 615.665.5387

October 15, 2015
Date

Tim Lavender

Tim C. Lavender
Fellow, Society of Actuaries
Enrollment No. 14-6745
Phone 615.665.5305

October 15, 2015
Date

Summary of Plan Provisions

The actuarial valuation includes all benefits provided by the Tennessee Consolidated Retirement System to the current active and inactive plan members. Benefit provisions include retirement, death and disability benefits. If applicable, post-retirement cost of living adjustments are included. Please refer to the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013 for a complete summary of plan provisions.

Summary of Actuarial Assumptions and Methods

Investment Rate of Return

7.5 percent per annum, compounded annually

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees in conjunction with the June 30, 2012 actuarial experience study by considering the following three techniques: (1) the 25-year historical return of the TCRS at June 30, 2012, (2) the historical market returns of asset classes from 1926 to 2012 using the TCRS investment policy asset allocation, and (3) capital market projections that were utilized as a building-block method in which best-estimate ranges of expected future real rate of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. Four sources of capital market projections were blended and utilized in the third technique. The blended capital market projection established the long-term expected rate of return by weighting the expected future real rate of return by the target asset allocation percentage and by adding inflation of 3 percent. The target allocation and best estimates of arithmetic real rates of return for each major asset class are summarized in the following table:

Asset Class	**Long-Term Expected Real Rate of Return**	**Target Allocations**
U.S. equity	6.46%	33%
Developed market international equity	6.26%	17%
Emerging market international equity	6.40%	5%
Private equity and strategic lending	4.61%	8%
U.S. fixed income	0.98%	29%
Real estate	4.73%	7%
Short-term securities	0.00%	1%
		100%

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees as 7.5 percent based on a blending of the three techniques described above.

Discount Rate

7.5 percent per annum, compounded annually

Paragraph 29 of Statement No. 68 provides for an alternative method to be used other than the projection of the pension plan's fiduciary net position based on projected contributions, benefit payments and investment earnings. The current contribution policy requires contributions of the normal cost plus a closed amortization of the unfunded liabilities (not to exceed 30 years from when the unfunded liability was created). In addition, the employer has a documented history of contributing 100 percent of the actuarially determined contribution requirement. The discount rate utilized assumes that employee contributions will be made at the current applicable rate and that contributions from the employer will be made at the actuarially determined contribution rate pursuant to an actuarial valuation in accordance with the pension funding policy of the TCRS Board of Trustees and as required to be paid by state statute. Based on these assumptions and the actuarial methodology adopted, the employer's fiduciary net position is expected to remain positive and to be available to make projected future benefit payments of current active and inactive members and to cover administrative expenses. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Actuarial Valuation Method

All liabilities and normal costs shown in this report are calculated based on the Entry Age Normal method.

Asset Valuation Method

Fair Market Value

Amortization Method for GASB Statement No. 68

Level Dollar

Amortization Period for GASB Statement No. 68

Investment gains or losses are amortized over five years. Experience gains or losses and changes in actuarial assumptions are amortized over the average working lifetime of all participants. Plan amendments are recognized immediately.

Additional Assumptions

Please refer to the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013 for a complete summary of actuarial assumptions.

Selection of Assumptions

The TCRS Board of Trustees selected the assumptions described above based on the review of plan experience in conjunction with an experience study conducted as of June 30, 2012. A complete plan experience study is conducted every four years.

GASB Statement No. 68

This section presents specific information required under Statement No. 68. The information in this report is to satisfy the employer reporting for the pension plan. This section contains the following:

- Summary of Key Actuarial Assumptions for Statement No. 68
- Employees Covered by Benefit Terms at June 30, 2014
- Contributions
- Schedule of Changes in the Net Pension Liability (Asset)
- Sensitivity of Net Pension Liability (Asset) to Changes in the Discount Rate
- Pension Expense (Income) and Deferred Outflows/Inflows of Resources
- Schedule of Changes in Net Pension Liability (Asset) and Related Ratios
- Schedule of Contributions

Fiduciary Net Position is the amount of assets available for benefits in the Pension Plan.

Total Pension Liability is the plan liability determined using assumptions listed in the Summary of Actuarial Assumptions.

Net Pension Liability (Asset) is the difference in the Total Pension Liability and the Fiduciary Net Position.

Summary of Key Actuarial Assumptions for GASB Statement No. 68

Reporting Date	June 30, 2015
Measurement Date	June 30, 2014
Actuarial Valuation Date	June 30, 2014
Actuarial cost method	Entry Age Normal
Amortization method	Level dollar
Asset valuation method	Fair market value
Inflation	3.0 percent
Salary increases	Graded salary ranges from 8.97 to 3.71 percent based on age, including inflation, averaging 4.25 percent
Investment rate of return	7.5 percent, net of investment expense, including inflation
Retirement age	Pattern of retirement determined by experience study
Mortality	Customized table based on actual experience including an adjustment for some anticipated improvement
Cost of living adjustments	2.5 percent, if provided

Employees Covered by Benefit Terms at June 30, 2014

Inactive employees or beneficiaries currently receiving benefits	0
Inactive employees entitled to but not yet receiving benefits	0
Active employees	1
Total	1

A complete summary of the census data utilized in this report is available upon request.

Contributions

June 30, 2014 employer contributions	$2,220
Employer contribution rate	9.86%

Schedule of Changes in Net Pension Liability (Asset)

	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (Asset) (a) - (b)
Balance at June 30, 2013	$0	$0	$0
Service cost	0		0
Interest	0		0
Differences between expected and actual experience	16,209		16,209
Contributions-employer		2,220	(2,220)
Contributions-employee		1,126	(1,126)
Net investment income		273	(273)
Benefit payments, including refunds of employee contributions	0	0	
Administrative expense		(33)	33
Net changes	16,209	3,586	12,623
Balance at June 30, 2014	$16,209	$3,586	$12,623

Sensitivity of Net Pension Liability (Asset) to Changes in the Discount Rate

The following represents the net pension liability (asset) calculated using the stated discount rate, as well as what the net pension liability (asset) would be if it were calculated using a discount rate that is 1-percentage-point lower or 1-percentage-point higher than the current rate:

	1% Decrease (6.50%)	Current Rate (7.50%)	1% Increase (8.50%)
Net Pension Liability (Asset)	$16,202	$12,623	$9,745

Pension Expense (Income) and Deferred Outflows/Inflows of Resources

	Pension Expense (Income)
Service cost	$0
Interest	0
Contributions-employees	(1,126)
Projected investment income	(124)
Recognition of experience (gain)/loss	1,081
Recognition of investment (gain)/loss	(30)
Administrative expense	33
Pension Expense (Income)	$(166)

For the year ended June 30, 2015, the recognized pension expense (income) is $(166). At June 30, 2015, deferred outflows of resources and deferred inflows of resources related to pensions are from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$15,128	$0
Changes of assumptions	0	0
Net difference between projected and actual earnings of pension plan investments	0	119
Total	$15,128	$119

Amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

Year ended June 30:	Outflows (a)	Inflows (b)	Amount Reported (a) + (b)
2015	$1,081	$(30)	$1,051
2016	1,081	(30)	1,051
2017	1,081	(30)	1,051
2018	1,081	(30)	1,051
2019	1,081	(30)	1,051
2020	1,081	0	1,081
Thereafter	9,729	0	9,729

Development of Deferred Outflows and Deferred Inflows

	Original Amount	Date Established	Original Period	Amount Recognized in Expense	Deferred Outflow Amount	Deferred Inflow Amount
Experience (gains) / losses	$16,209	6/30/2015	15	$1,081	$15,128	$(0)
		Total		$1,081	$15,128	$(0)
Investment (gains) / losses	$(149)	6/30/2015	5	$(30)	$0	$(119)
		Total		$(30)	$0	$(119)
Assumption changes	$0	6/30/2015	0	$0	$0	$(0)
		Total		$0	$0	$(0)

Schedule of Changes in the Net Pension Liability (Asset) and Related Ratios

for fiscal year ending June 30, 2015 (year shown is measurement date)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total Pension Liability										
Service cost	$0									
Interest	0									
Changes of benefit terms	0									
Differences between expected and actual experience	16,209									
Changes of assumptions	0									
Benefit Payments, including refunds of employee contributions	0									
Net Change in Total Pension Liability (Asset)	16,209									
Total Pension Liability (Asset) - beginning	0									
Total Pension Liability (Asset) - ending (a)	$16,209									
Plan Fiduciary Net Position										
Contributions - employer	$2,220									
Contributions - employee	1,126									
Net investment income	273									
Benefit Payments, including refunds of employee contributions	0									
Administrative expenses	(33)									
Other	0									
Net Change in Plan Fiduciary Net Position	$3,586									
Plan Fiduciary Net Position - beginning	0									
Plan Fiduciary Net Position - ending (b)	$3,586									
Net Pension Liability (Asset) - ending (a) - (b)	$12,623									
Plan Fiduciary Net Position as a % of the Total Pension Liability	22.12%									
Covered-employee payroll	$22,511									
Net Pension Liability (Asset) as a % of covered-employee payroll	56.07%									

Schedule of Contributions

	fiscal year ending June 30									
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Actuarially determined contribution	$2,220									
Contributions in relation to the actuarially determined contribution	2,220									
Contribution deficiency (excess)	$0									
Covered-employee payroll	$22,511									
Contributions as a percentage of covered-employee payroll	9.86%									

Notes to the Schedule Relating to the Actuarially Determined Contribution

Employer contributions for the year ended June 30, 2015 are based on the results of the July 1, 2013 actuarial valuation. Accordingly, governmental employers utilize the following notes to the schedule relating to the Actuarially Determined Contributions when presenting 2015. If 2015 is not presented, then a separate set of notes would apply.

Actuarial cost method	Frozen initial liability
Amortization method	Level dollar, closed (not to exceed 20 years)
Remaining amortization period	n/a years
Asset valuation method	10-year smoothed within a 20 percent corridor to market value
Inflation	3.0 percent
Salary increases	Graded salary ranges from 8.97 to 3.71 percent based on age, including inflation, averaging 4.25 percent
Investment rate of return	7.5 percent, net of investment expense, including inflation
Retirement age	Pattern of retirement determined by experience study
Mortality	Customized table based on actual experience including an adjustment for some anticipated improvement
Cost of living adjustments	2.5 percent, if provided

Tennessee Consolidated Retirement System

TOWN OF HUNTINGDON

GASB Statement No. 68

Actuarial Report
Reporting Date: June 30, 2015

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Accounting Governance Background

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Purpose and Use

This report has been prepared exclusively for the Tennessee Consolidated Retirement System. Actuarial computations under Statement No. 68 are for purposes of fulfilling employer governmental accounting requirements, and may not be appropriate for other purposes. The calculations reported herein have been made on a basis consistent with our understanding of the statement. Bryan, Pendleton, Swats & McAllister, LLC is not responsible for consequences resulting from the use of any part of this report without prior authorization or approval. This report provides actuarial advice and does not constitute legal, accounting, tax or investment advice. Determinations for other purposes, such as funding, bond ratings, or judging benefit security, may be significantly different from the results shown in this report.

Actuarial findings in this report are based on actuarial assumptions which reflect expected plan experience. Although the deviation of the actual future plan experience and the expected experience inherently creates some uncertainty with the results, in our opinion the actuarial assumptions reasonably reflect the expected future experience of the plan. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan’s funded status); and changes in plan provisions or applicable law. All of these factors can cause volatility in the Net Pension Liability (Asset) over time.

Data

The calculations shown in this report have been prepared using employee data (including covered-employee payroll) and plan documentation furnished by the Tennessee Consolidated Retirement System as of June 30, 2014. Plan asset information was furnished by the Tennessee Consolidated Retirement System for the twelve month period ending June 30, 2014. While we have not audited the data, we have reviewed it for reasonableness and internal consistency. We have made reasonable assumptions with regard to any incomplete records, and to the best of our knowledge, there are no material limitations to the data provided. A complete summary of the census data utilized in this report is available upon request.

Subsequent Events

We are unaware of any subsequent event after June 30, 2015 which would have a material effect on the results presented in this report.

Assumptions, Methods, and Procedures

The results presented in this report comply with the assumptions, methods, and procedures under Statement No. 68. The results are based on a June 30, 2014 actuarial valuation date, a measurement date of June 30, 2014 and a reporting date of June 30, 2015. All assumptions are selected by the TCRS Board of Trustees. Statement No. 68 mandates the use of the Entry Age Normal actuarial funding method.

Changes in Plan Provisions, Actuarial Assumptions, and Actuarial Methods

No changes were made to the plan provisions, actuarial assumptions and methods at the June 30, 2014 actuarial valuation date compared to the most recent funding valuation completed as of July 1, 2013.

Summaries of the plan provisions and actuarial assumptions can be found in the Basis for Valuation section of this report and in the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013.

Professional Qualifications

This report has been prepared under the supervision of Justin C. Thacker, a member of the American Academy of Actuaries, a Fellow of the Society of Actuaries, and a consulting actuary with Bryan, Pendleton, Swats and McAllister, LLC, who has met the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions herein. To the best of our knowledge this report has been prepared in accordance with generally accepted actuarial standards and our understanding of Government Accounting Standards Board Statement No. 68, including the overall appropriateness of the analysis, assumptions, and results and conforms to appropriate Standards of Practice as promulgated from time to time by the Actuarial Standards Board, which standards form the basis for the actuarial report. We are not aware of any direct or material indirect financial interest or relationship that could create, or appear to create, a conflict of interest that would impair the objectivity of our work. The undersigned are available to provide supplemental information or explanation.

Justin Thacker

Justin C. Thacker
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Enrollment No. 14-6078
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October 15, 2015
Date

Tim Lavender

Tim C. Lavender
Fellow, Society of Actuaries
Enrollment No. 14-6745
Phone 615.665.5305

October 15, 2015
Date

Summary of Plan Provisions

The actuarial valuation includes all benefits provided by the Tennessee Consolidated Retirement System to the current active and inactive plan members. Benefit provisions include retirement, death and disability benefits. If applicable, post-retirement cost of living adjustments are included. Please refer to the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013 for a complete summary of plan provisions.

Summary of Actuarial Assumptions and Methods

Investment Rate of Return

7.5 percent per annum, compounded annually

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees in conjunction with the June 30, 2012 actuarial experience study by considering the following three techniques: (1) the 25-year historical return of the TCRS at June 30, 2012, (2) the historical market returns of asset classes from 1926 to 2012 using the TCRS investment policy asset allocation, and (3) capital market projections that were utilized as a building-block method in which best-estimate ranges of expected future real rate of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. Four sources of capital market projections were blended and utilized in the third technique. The blended capital market projection established the long-term expected rate of return by weighting the expected future real rate of return by the target asset allocation percentage and by adding inflation of 3 percent. The target allocation and best estimates of arithmetic real rates of return for each major asset class are summarized in the following table:

Asset Class	**Long-Term Expected Real Rate of Return**	**Target Allocations**
U.S. equity	6.46%	33%
Developed market international equity	6.26%	17%
Emerging market international equity	6.40%	5%
Private equity and strategic lending	4.61%	8%
U.S. fixed income	0.98%	29%
Real estate	4.73%	7%
Short-term securities	0.00%	1%
		100%

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees as 7.5 percent based on a blending of the three techniques described above.

Discount Rate

7.5 percent per annum, compounded annually

Paragraph 29 of Statement No. 68 provides for an alternative method to be used other than the projection of the pension plan's fiduciary net position based on projected contributions, benefit payments and investment earnings. The current contribution policy requires contributions of the normal cost plus a closed amortization of the unfunded liabilities (not to exceed 30 years from when the unfunded liability was created). In addition, the employer has a documented history of contributing 100 percent of the actuarially determined contribution requirement. The discount rate utilized assumes that employee contributions will be made at the current applicable rate and that contributions from the employer will be made at the actuarially determined contribution rate pursuant to an actuarial valuation in accordance with the pension funding policy of the TCRS Board of Trustees and as required to be paid by state statute. Based on these assumptions and the actuarial methodology adopted, the employer's fiduciary net position is expected to remain positive and to be available to make projected future benefit payments of current active and inactive members and to cover administrative expenses. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Actuarial Valuation Method

All liabilities and normal costs shown in this report are calculated based on the Entry Age Normal method.

Asset Valuation Method

Fair Market Value

Amortization Method for GASB Statement No. 68

Level Dollar

Amortization Period for GASB Statement No. 68

Investment gains or losses are amortized over five years. Experience gains or losses and changes in actuarial assumptions are amortized over the average working lifetime of all participants. Plan amendments are recognized immediately.

Additional Assumptions

Please refer to the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013 for a complete summary of actuarial assumptions.

Selection of Assumptions

The TCRS Board of Trustees selected the assumptions described above based on the review of plan experience in conjunction with an experience study conducted as of June 30, 2012. A complete plan experience study is conducted every four years.

GASB Statement No. 68

This section presents specific information required under Statement No. 68. The information in this report is to satisfy the employer reporting for the pension plan. This section contains the following:

- Summary of Key Actuarial Assumptions for Statement No. 68
- Employees Covered by Benefit Terms at June 30, 2014
- Contributions
- Schedule of Changes in the Net Pension Liability (Asset)
- Sensitivity of Net Pension Liability (Asset) to Changes in the Discount Rate
- Pension Expense (Income) and Deferred Outflows/Inflows of Resources
- Schedule of Changes in Net Pension Liability (Asset) and Related Ratios
- Schedule of Contributions

Fiduciary Net Position is the amount of assets available for benefits in the Pension Plan.

Total Pension Liability is the plan liability determined using assumptions listed in the Summary of Actuarial Assumptions.

Net Pension Liability (Asset) is the difference in the Total Pension Liability and the Fiduciary Net Position.

Summary of Key Actuarial Assumptions for GASB Statement No. 68

Reporting Date	June 30, 2015
Measurement Date	June 30, 2014
Actuarial Valuation Date	June 30, 2014
Actuarial cost method	Entry Age Normal
Amortization method	Level dollar
Asset valuation method	Fair market value
Inflation	3.0 percent
Salary increases	Graded salary ranges from 8.97 to 3.71 percent based on age, including inflation, averaging 4.25 percent
Investment rate of return	7.5 percent, net of investment expense, including inflation
Retirement age	Pattern of retirement determined by experience study
Mortality	Customized table based on actual experience including an adjustment for some anticipated improvement
Cost of living adjustments	2.5 percent, if provided

Employees Covered by Benefit Terms at June 30, 2014

Inactive employees or beneficiaries currently receiving benefits	0
Inactive employees entitled to but not yet receiving benefits	2
Active employees	27
Total	29

A complete summary of the census data utilized in this report is available upon request.

Contributions

June 30, 2014 employer contributions	$22,113
Employer contribution rate	4.54%

Schedule of Changes in Net Pension Liability (Asset)

	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (Asset) (a) - (b)
Balance at June 30, 2013	$0	$11,613	$(11,613)
Service cost	0		0
Interest	0		0
Differences between expected and actual experience	45,670		45,670
Contributions-employer		22,113	(22,113)
Contributions-employee		24,354	(24,354)
Net investment income		5,706	(5,706)
Benefit payments, including refunds of employee contributions	0	0	
Administrative expense		(819)	819
Net changes	45,670	51,354	(5,684)
Balance at June 30, 2014	$45,670	$62,967	$(17,297)

Sensitivity of Net Pension Liability (Asset) to Changes in the Discount Rate

The following represents the net pension liability (asset) calculated using the stated discount rate, as well as what the net pension liability (asset) would be if it were calculated using a discount rate that is 1-percentage-point lower or 1-percentage-point higher than the current rate:

	1% Decrease (6.50%)	Current Rate (7.50%)	1% Increase (8.50%)
Net Pension Liability (Asset)	$(9,340)	$(17,297)	$(23,821)

Pension Expense (Income) and Deferred Outflows/Inflows of Resources

	Pension Expense (Income)
Service cost	$0
Interest	0
Contributions-employees	(24,354)
Projected investment income	(2,583)
Recognition of experience (gain)/loss	5,074
Recognition of investment (gain)/loss	(625)
Administrative expense	819
Pension Expense (Income)	$(21,669)

For the year ended June 30, 2015, the recognized pension expense (income) is $(21,669). At June 30, 2015, deferred outflows of resources and deferred inflows of resources related to pensions are from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$40,596	$0
Changes of assumptions	0	0
Net difference between projected and actual earnings of pension plan investments	0	2,498
Total	$40,596	$2,498

Amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

Year ended June 30:	**Outflows (a)**	**Inflows (b)**	**Amount Reported (a) + (b)**
2015	$5,074	$(625)	$4,449
2016	5,074	(625)	4,449
2017	5,074	(625)	4,449
2018	5,074	(625)	4,449
2019	5,074	(625)	4,449
2020	5,074	0	5,074
Thereafter	15,222	0	15,222

Development of Deferred Outflows and Deferred Inflows

	Original Amount	Date Established	Original Period	Amount Recognized in Expense	Deferred Outflow Amount	Deferred Inflow Amount
Experience (gains) / losses	$45,670	6/30/2015	9	$5,074	$40,596	$(0)
		Total		$5,074	$40,596	$(0)
Investment (gains) / losses	$(3,123)	6/30/2015	5	$(625)	$0	$(2,498)
		Total		$(625)	$0	$(2,498)
Assumption changes	$0	6/30/2015	0	$0	$0	$(0)
		Total		$0	$0	$(0)

Schedule of Changes in the Net Pension Liability (Asset) and Related Ratios

for fiscal year ending June 30, 2015 (year shown is measurement date)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total Pension Liability										
Service cost	$0									
Interest	0									
Changes of benefit terms	0									
Differences between expected and actual experience	45,670									
Changes of assumptions	0									
Benefit Payments, including refunds of employee contributions	0									
Net Change in Total Pension Liability (Asset)	45,670									
Total Pension Liability (Asset) - beginning	0									
Total Pension Liability (Asset) - ending (a)	$45,670									
Plan Fiduciary Net Position										
Contributions - employer	$22,113									
Contributions - employee	24,354									
Net investment income	5,706									
Benefit Payments, including refunds of employee contributions	0									
Administrative expenses	(819)									
Other	0									
Net Change in Plan Fiduciary Net Position	$51,354									
Plan Fiduciary Net Position - beginning	11,613									
Plan Fiduciary Net Position - ending (b)	$62,967									
Net Pension Liability (Asset) - ending (a) - (b)	$(17,297)									
Plan Fiduciary Net Position as a % of the Total Pension Liability	137.87%									
Covered-employee payroll	$487,070									
Net Pension Liability (Asset) as a % of covered-employee payroll	(3.55%)									

Schedule of Contributions

	fiscal year ending June 30									
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Actuarially determined contribution	$22,113									
Contributions in relation to the actuarially determined contribution	22,113									
Contribution deficiency (excess)	$0									
Covered-employee payroll	$487,070									
Contributions as a percentage of covered-employee payroll	4.54%									

Notes to the Schedule Relating to the Actuarially Determined Contribution

Employer contributions for the year ended June 30, 2015 are based on the results of the July 1, 2013 actuarial valuation. Accordingly, governmental employers utilize the following notes to the schedule relating to the Actuarially Determined Contributions when presenting 2015. If 2015 is not presented, then a separate set of notes would apply.

Actuarial cost method	Frozen initial liability
Amortization method	Level dollar, closed (not to exceed 20 years)
Remaining amortization period	n/a years
Asset valuation method	10-year smoothed within a 20 percent corridor to market value
Inflation	3.0 percent
Salary increases	Graded salary ranges from 8.97 to 3.71 percent based on age, including inflation, averaging 4.25 percent
Investment rate of return	7.5 percent, net of investment expense, including inflation
Retirement age	Pattern of retirement determined by experience study
Mortality	Customized table based on actual experience including an adjustment for some anticipated improvement
Cost of living adjustments	2.5 percent, if provided

Bryan, Pendleton, Swats & McAllister, LLC
A Wells Fargo Company

Tennessee Consolidated Retirement System

CARROLL COUNTY COMMISSIONERS

GASB Statement No. 68

Actuarial Report
Reporting Date: June 30, 2015

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Accounting Governance Background

Statement No. 27 of the Governmental Accounting Standards Board was amended by Statement No. 68 of the Governmental Accounting Standards Board. Statement No. 68 became effective for employer financial statements for the fiscal year beginning after June 15, 2014. Statement No. 68 establishes financial reporting standards for state and local government employers with pension plans that are administered through trusts or equivalent arrangements. The objective of this statement is to improve the usefulness of the information included in employer financial statements.

Purpose and Use

This report has been prepared exclusively for the Tennessee Consolidated Retirement System. Actuarial computations under Statement No. 68 are for purposes of fulfilling employer governmental accounting requirements, and may not be appropriate for other purposes. The calculations reported herein have been made on a basis consistent with our understanding of the statement. Bryan, Pendleton, Swats & McAllister, LLC is not responsible for consequences resulting from the use of any part of this report without prior authorization or approval. This report provides actuarial advice and does not constitute legal, accounting, tax or investment advice. Determinations for other purposes, such as funding, bond ratings, or judging benefit security, may be significantly different from the results shown in this report.

Actuarial findings in this report are based on actuarial assumptions which reflect expected plan experience. Although the deviation of the actual future plan experience and the expected experience inherently creates some uncertainty with the results, in our opinion the actuarial assumptions reasonably reflect the expected future experience of the plan. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan’s funded status); and changes in plan provisions or applicable law. All of these factors can cause volatility in the Net Pension Liability (Asset) over time.

Data

The calculations shown in this report have been prepared using employee data (including covered-employee payroll) and plan documentation furnished by the Tennessee Consolidated Retirement System as of June 30, 2014. Plan asset information was furnished by the Tennessee Consolidated Retirement System for the twelve month period ending June 30, 2014. While we have not audited the data, we have reviewed it for reasonableness and internal consistency. We have made reasonable assumptions with regard to any incomplete records, and to the best of our knowledge, there are no material limitations to the data provided. A complete summary of the census data utilized in this report is available upon request.

Subsequent Events

We are unaware of any subsequent event after June 30, 2015 which would have a material effect on the results presented in this report.

Assumptions, Methods, and Procedures

The results presented in this report comply with the assumptions, methods, and procedures under Statement No. 68. The results are based on a June 30, 2014 actuarial valuation date, a measurement date of June 30, 2014 and a reporting date of June 30, 2015. All assumptions are selected by the TCRS Board of Trustees. Statement No. 68 mandates the use of the Entry Age Normal actuarial funding method.

Changes in Plan Provisions, Actuarial Assumptions, and Actuarial Methods

No changes were made to the plan provisions, actuarial assumptions and methods at the June 30, 2014 actuarial valuation date compared to the most recent funding valuation completed as of July 1, 2013.

Summaries of the plan provisions and actuarial assumptions can be found in the Basis for Valuation section of this report and in the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013.

Professional Qualifications

This report has been prepared under the supervision of Justin C. Thacker, a member of the American Academy of Actuaries, a Fellow of the Society of Actuaries, and a consulting actuary with Bryan, Pendleton, Swats and McAllister, LLC, who has met the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions herein. To the best of our knowledge this report has been prepared in accordance with generally accepted actuarial standards and our understanding of Government Accounting Standards Board Statement No. 68, including the overall appropriateness of the analysis, assumptions, and results and conforms to appropriate Standards of Practice as promulgated from time to time by the Actuarial Standards Board, which standards form the basis for the actuarial report. We are not aware of any direct or material indirect financial interest or relationship that could create, or appear to create, a conflict of interest that would impair the objectivity of our work. The undersigned are available to provide supplemental information or explanation.

Justin Thacker

Justin C. Thacker
Fellow, Society of Actuaries
Enrollment No. 14-6078
Phone 615.665.5387

October 15, 2015
Date

Tim Lavender

Tim C. Lavender
Fellow, Society of Actuaries
Enrollment No. 14-6745
Phone 615.665.5305

October 15, 2015
Date

Summary of Plan Provisions

The actuarial valuation includes all benefits provided by the Tennessee Consolidated Retirement System to the current active and inactive plan members. Benefit provisions include retirement, death and disability benefits. If applicable, post-retirement cost of living adjustments are included. Please refer to the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013 for a complete summary of plan provisions.

Summary of Actuarial Assumptions and Methods

Investment Rate of Return

7.5 percent per annum, compounded annually

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees in conjunction with the June 30, 2012 actuarial experience study by considering the following three techniques: (1) the 25-year historical return of the TCRS at June 30, 2012, (2) the historical market returns of asset classes from 1926 to 2012 using the TCRS investment policy asset allocation, and (3) capital market projections that were utilized as a building-block method in which best-estimate ranges of expected future real rate of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. Four sources of capital market projections were blended and utilized in the third technique. The blended capital market projection established the long-term expected rate of return by weighting the expected future real rate of return by the target asset allocation percentage and by adding inflation of 3 percent. The target allocation and best estimates of arithmetic real rates of return for each major asset class are summarized in the following table:

Asset Class	Long-Term Expected Real Rate of Return	Target Allocations
U.S. equity	6.46%	33%
Developed market international equity	6.26%	17%
Emerging market international equity	6.40%	5%
Private equity and strategic lending	4.61%	8%
U.S. fixed income	0.98%	29%
Real estate	4.73%	7%
Short-term securities	0.00%	1%
		100%

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees as 7.5 percent based on a blending of the three techniques described above.

Discount Rate

7.5 percent per annum, compounded annually

Paragraph 29 of Statement No. 68 provides for an alternative method to be used other than the projection of the pension plan's fiduciary net position based on projected contributions, benefit payments and investment earnings. The current contribution policy requires contributions of the normal cost plus a closed amortization of the unfunded liabilities (not to exceed 30 years from when the unfunded liability was created). In addition, the employer has a documented history of contributing 100 percent of the actuarially determined contribution requirement. The discount rate utilized assumes that employee contributions will be made at the current applicable rate and that contributions from the employer will be made at the actuarially determined contribution rate pursuant to an actuarial valuation in accordance with the pension funding policy of the TCRS Board of Trustees and as required to be paid by state statute. Based on these assumptions and the actuarial methodology adopted, the employer's fiduciary net position is expected to remain positive and to be available to make projected future benefit payments of current active and inactive members and to cover administrative expenses. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Actuarial Valuation Method

All liabilities and normal costs shown in this report are calculated based on the Entry Age Normal method.

Asset Valuation Method

Fair Market Value

Amortization Method for GASB Statement No. 68

Level Dollar

Amortization Period for GASB Statement No. 68

Investment gains or losses are amortized over five years. Experience gains or losses and changes in actuarial assumptions are amortized over the average working lifetime of all participants. Plan amendments are recognized immediately.

Additional Assumptions

Please refer to the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013 for a complete summary of actuarial assumptions.

Selection of Assumptions

The TCRS Board of Trustees selected the assumptions described above based on the review of plan experience in conjunction with an experience study conducted as of June 30, 2012. A complete plan experience study is conducted every four years.

GASB Statement No. 68

This section presents specific information required under Statement No. 68. The information in this report is to satisfy the employer reporting for the pension plan. This section contains the following:

- Summary of Key Actuarial Assumptions for Statement No. 68
- Employees Covered by Benefit Terms at June 30, 2014
- Contributions
- Schedule of Changes in the Net Pension Liability (Asset)
- Sensitivity of Net Pension Liability (Asset) to Changes in the Discount Rate
- Pension Expense (Income) and Deferred Outflows/Inflows of Resources
- Schedule of Changes in Net Pension Liability (Asset) and Related Ratios
- Schedule of Contributions

Fiduciary Net Position is the amount of assets available for benefits in the Pension Plan.

Total Pension Liability is the plan liability determined using assumptions listed in the Summary of Actuarial Assumptions.

Net Pension Liability (Asset) is the difference in the Total Pension Liability and the Fiduciary Net Position.

Summary of Key Actuarial Assumptions for GASB Statement No. 68

Reporting Date	June 30, 2015
Measurement Date	June 30, 2014
Actuarial Valuation Date	June 30, 2014
Actuarial cost method	Entry Age Normal
Amortization method	Level dollar
Asset valuation method	Fair market value
Inflation	3.0 percent
Salary increases	Graded salary ranges from 8.97 to 3.71 percent based on age, including inflation, averaging 4.25 percent
Investment rate of return	7.5 percent, net of investment expense, including inflation
Retirement age	Pattern of retirement determined by experience study
Mortality	Customized table based on actual experience including an adjustment for some anticipated improvement
Cost of living adjustments	2.5 percent, if provided

Employees Covered by Benefit Terms at June 30, 2014

Inactive employees or beneficiaries currently receiving benefits	1
Inactive employees entitled to but not yet receiving benefits	2
Active employees	9
Total	12

A complete summary of the census data utilized in this report is available upon request.

Contributions

June 30, 2014 employer contributions	$8,593
Employer contribution rate	66.61%

Schedule of Changes in Net Pension Liability (Asset)

	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (Asset) (a) - (b)
Balance at June 30, 2013	$98,999	$83,450	$15,549
Service cost	3,649		3,649
Interest	7,679		7,679
Differences between expected and actual experience	2,729		2,729
Contributions-employer		8,593	(8,593)
Contributions-employee		645	(645)
Net investment income		14,532	(14,532)
Benefit payments, including refunds of employee contributions	(521)	(521)	
Administrative expense		(303)	303
Net changes	13,536	22,946	(9,410)
Balance at June 30, 2014	$112,535	$106,396	$6,139

Sensitivity of Net Pension Liability (Asset) to Changes in the Discount Rate

The following represents the net pension liability (asset) calculated using the stated discount rate, as well as what the net pension liability (asset) would be if it were calculated using a discount rate that is 1-percentage-point lower or 1-percentage-point higher than the current rate:

	1% Decrease (6.50%)	Current Rate (7.50%)	1% Increase (8.50%)
Net Pension Liability (Asset)	$16,658	$6,139	$(3,697)

Pension Expense (Income) and Deferred Outflows/Inflows of Resources

	Pension Expense (Income)
Service cost	$3,649
Interest	7,679
Contributions-employees	(645)
Projected investment income	(6,574)
Recognition of experience (gain)/loss	682
Recognition of investment (gain)/loss	(1,592)
Administrative expense	303
Pension Expense (Income)	$3,502

For the year ended June 30, 2015, the recognized pension expense (income) is $3,502. At June 30, 2015, deferred outflows of resources and deferred inflows of resources related to pensions are from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$2,047	$0
Changes of assumptions	0	0
Net difference between projected and actual earnings of pension plan investments	0	6,366
Total	$2,047	$6,366

Amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

Year ended June 30:	Outflows (a)	Inflows (b)	Amount Reported (a) + (b)
2015	$682	$(1,592)	$(910)
2016	682	(1,592)	(910)
2017	682	(1,592)	(910)
2018	682	(1,592)	(910)
2019	0	(1,592)	(1,592)
2020	0	0	0
Thereafter	0	0	0

Development of Deferred Outflows and Deferred Inflows

	Original Amount	Date Established	Original Period	Amount Recognized in Expense	Deferred Outflow Amount	Deferred Inflow Amount
Experience (gains) / losses	$2,729	6/30/2015	4	$682	$2,047	$(0)
		Total		$682	$2,047	$(0)
Investment (gains) / losses	$(7,958)	6/30/2015	5	$(1,592)	$0	$(6,366)
		Total		$(1,592)	$0	$(6,366)
Assumption changes	$0	6/30/2015	0	$0	$0	$(0)
		Total		$0	$0	$(0)

Schedule of Changes in the Net Pension Liability (Asset) and Related Ratios

for fiscal year ending June 30, 2015 (year shown is measurement date)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total Pension Liability										
Service cost	$3,649									
Interest	7,679									
Changes of benefit terms	0									
Differences between expected and actual experience	2,729									
Changes of assumptions	0									
Benefit Payments, including refunds of employee contributions	(521)									
Net Change in Total Pension Liability (Asset)	13,536									
Total Pension Liability (Asset) - beginning	98,999									
Total Pension Liability (Asset) - ending (a)	$112,535									
Plan Fiduciary Net Position										
Contributions - employer	$8,593									
Contributions - employee	645									
Net investment income	14,532									
Benefit Payments, including refunds of employee contributions	(521)									
Administrative expenses	(303)									
Other	0									
Net Change in Plan Fiduciary Net Position	$22,946									
Plan Fiduciary Net Position - beginning	83,450									
Plan Fiduciary Net Position - ending (b)	$106,396									
Net Pension Liability (Asset) - ending (a) - (b)	$6,139									
Plan Fiduciary Net Position as a % of the Total Pension Liability	94.54%									
Covered-employee payroll	$12,900									
Net Pension Liability (Asset) as a % of covered-employee payroll	47.59%									

Schedule of Contributions

	fiscal year ending June 30									
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Actuarially determined contribution	$8,593									
Contributions in relation to the actuarially determined contribution	8,593									
Contribution deficiency (excess)	$0									
Covered-employee payroll	$12,900									
Contributions as a percentage of covered-employee payroll	66.61%									

Notes to the Schedule Relating to the Actuarially Determined Contribution

Employer contributions for the year ended June 30, 2015 are based on the results of the July 1, 2013 actuarial valuation. Accordingly, governmental employers utilize the following notes to the schedule relating to the Actuarially Determined Contributions when presenting 2015. If 2015 is not presented, then a separate set of notes would apply.

Actuarial cost method	Frozen initial liability
Amortization method	Level dollar, closed (not to exceed 20 years)
Remaining amortization period	3 years
Asset valuation method	10-year smoothed within a 20 percent corridor to market value
Inflation	3.0 percent
Salary increases	Graded salary ranges from 8.97 to 3.71 percent based on age, including inflation, averaging 4.25 percent
Investment rate of return	7.5 percent, net of investment expense, including inflation
Retirement age	Pattern of retirement determined by experience study
Mortality	Customized table based on actual experience including an adjustment for some anticipated improvement
Cost of living adjustments	2.5 percent, if provided

BPS&M
Bryan, Pendleton, Swats & McAllister, LLC
A Wells Fargo Company

Tennessee Consolidated Retirement System

REELFOOT LAKE REGIONAL UTILITY

GASB Statement No. 68

Actuarial Report
Reporting Date: June 30, 2015

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Accounting Governance Background

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Purpose and Use

This report has been prepared exclusively for the Tennessee Consolidated Retirement System. Actuarial computations under Statement No. 68 are for purposes of fulfilling employer governmental accounting requirements, and may not be appropriate for other purposes. The calculations reported herein have been made on a basis consistent with our understanding of the statement. Bryan, Pendleton, Swats & McAllister, LLC is not responsible for consequences resulting from the use of any part of this report without prior authorization or approval. This report provides actuarial advice and does not constitute legal, accounting, tax or investment advice. Determinations for other purposes, such as funding, bond ratings, or judging benefit security, may be significantly different from the results shown in this report.

Actuarial findings in this report are based on actuarial assumptions which reflect expected plan experience. Although the deviation of the actual future plan experience and the expected experience inherently creates some uncertainty with the results, in our opinion the actuarial assumptions reasonably reflect the expected future experience of the plan. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan’s funded status); and changes in plan provisions or applicable law. All of these factors can cause volatility in the Net Pension Liability (Asset) over time.

Data

The calculations shown in this report have been prepared using employee data (including covered-employee payroll) and plan documentation furnished by the Tennessee Consolidated Retirement System as of June 30, 2014. Plan asset information was furnished by the Tennessee Consolidated Retirement System for the twelve month period ending June 30, 2014. While we have not audited the data, we have reviewed it for reasonableness and internal consistency. We have made reasonable assumptions with regard to any incomplete records, and to the best of our knowledge, there are no material limitations to the data provided. A complete summary of the census data utilized in this report is available upon request.

Subsequent Events

We are unaware of any subsequent event after June 30, 2015 which would have a material effect on the results presented in this report.

Assumptions, Methods, and Procedures

The results presented in this report comply with the assumptions, methods, and procedures under Statement No. 68. The results are based on a June 30, 2014 actuarial valuation date, a measurement date of June 30, 2014 and a reporting date of June 30, 2015. All assumptions are selected by the TCRS Board of Trustees. Statement No. 68 mandates the use of the Entry Age Normal actuarial funding method.

Changes in Plan Provisions, Actuarial Assumptions, and Actuarial Methods

No changes were made to the plan provisions, actuarial assumptions and methods at the June 30, 2014 actuarial valuation date compared to the most recent funding valuation completed as of July 1, 2013.

Summaries of the plan provisions and actuarial assumptions can be found in the Basis for Valuation section of this report and in the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013.

Professional Qualifications

This report has been prepared under the supervision of Justin C. Thacker, a member of the American Academy of Actuaries, a Fellow of the Society of Actuaries, and a consulting actuary with Bryan, Pendleton, Swats and McAllister, LLC, who has met the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions herein. To the best of our knowledge this report has been prepared in accordance with generally accepted actuarial standards and our understanding of Government Accounting Standards Board Statement No. 68, including the overall appropriateness of the analysis, assumptions, and results and conforms to appropriate Standards of Practice as promulgated from time to time by the Actuarial Standards Board, which standards form the basis for the actuarial report. We are not aware of any direct or material indirect financial interest or relationship that could create, or appear to create, a conflict of interest that would impair the objectivity of our work. The undersigned are available to provide supplemental information or explanation.

Justin Thacker

October 15, 2015

Justin C. Thacker
Fellow, Society of Actuaries
Enrollment No. 14-6078
Phone 615.665.5387

Date

Tim Lavender

October 15, 2015

Tim C. Lavender
Fellow, Society of Actuaries
Enrollment No. 14-6745
Phone 615.665.5305

Date

Summary of Plan Provisions

The actuarial valuation includes all benefits provided by the Tennessee Consolidated Retirement System to the current active and inactive plan members. Benefit provisions include retirement, death and disability benefits. If applicable, post-retirement cost of living adjustments are included. Please refer to the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013 for a complete summary of plan provisions.

Summary of Actuarial Assumptions and Methods

Investment Rate of Return

7.5 percent per annum, compounded annually

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees in conjunction with the June 30, 2012 actuarial experience study by considering the following three techniques: (1) the 25-year historical return of the TCRS at June 30, 2012, (2) the historical market returns of asset classes from 1926 to 2012 using the TCRS investment policy asset allocation, and (3) capital market projections that were utilized as a building-block method in which best-estimate ranges of expected future real rate of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. Four sources of capital market projections were blended and utilized in the third technique. The blended capital market projection established the long-term expected rate of return by weighting the expected future real rate of return by the target asset allocation percentage and by adding inflation of 3 percent. The target allocation and best estimates of arithmetic real rates of return for each major asset class are summarized in the following table:

Asset Class	**Long-Term Expected Real Rate of Return**	**Target Allocations**
U.S. equity	6.46%	33%
Developed market international equity	6.26%	17%
Emerging market international equity	6.40%	5%
Private equity and strategic lending	4.61%	8%
U.S. fixed income	0.98%	29%
Real estate	4.73%	7%
Short-term securities	0.00%	1%
		100%

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees as 7.5 percent based on a blending of the three techniques described above.

Discount Rate

7.5 percent per annum, compounded annually

Paragraph 29 of Statement No. 68 provides for an alternative method to be used other than the projection of the pension plan's fiduciary net position based on projected contributions, benefit payments and investment earnings. The current contribution policy requires contributions of the normal cost plus a closed amortization of the unfunded liabilities (not to exceed 30 years from when the unfunded liability was created). In addition, the employer has a documented history of contributing 100 percent of the actuarially determined contribution requirement. The discount rate utilized assumes that employee contributions will be made at the current applicable rate and that contributions from the employer will be made at the actuarially determined contribution rate pursuant to an actuarial valuation in accordance with the pension funding policy of the TCRS Board of Trustees and as required to be paid by state statute. Based on these assumptions and the actuarial methodology adopted, the employer's fiduciary net position is expected to remain positive and to be available to make projected future benefit payments of current active and inactive members and to cover administrative expenses. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Actuarial Valuation Method

All liabilities and normal costs shown in this report are calculated based on the Entry Age Normal method.

Asset Valuation Method

Fair Market Value

Amortization Method for GASB Statement No. 68

Level Dollar

Amortization Period for GASB Statement No. 68

Investment gains or losses are amortized over five years. Experience gains or losses and changes in actuarial assumptions are amortized over the average working lifetime of all participants. Plan amendments are recognized immediately.

Additional Assumptions

Please refer to the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013 for a complete summary of actuarial assumptions.

Selection of Assumptions

The TCRS Board of Trustees selected the assumptions described above based on the review of plan experience in conjunction with an experience study conducted as of June 30, 2012. A complete plan experience study is conducted every four years.

GASB Statement No. 68

This section presents specific information required under Statement No. 68. The information in this report is to satisfy the employer reporting for the pension plan. This section contains the following:

- Summary of Key Actuarial Assumptions for Statement No. 68
- Employees Covered by Benefit Terms at June 30, 2014
- Contributions
- Schedule of Changes in the Net Pension Liability (Asset)
- Sensitivity of Net Pension Liability (Asset) to Changes in the Discount Rate
- Pension Expense (Income) and Deferred Outflows/Inflows of Resources
- Schedule of Changes in Net Pension Liability (Asset) and Related Ratios
- Schedule of Contributions

Fiduciary Net Position is the amount of assets available for benefits in the Pension Plan.

Total Pension Liability is the plan liability determined using assumptions listed in the Summary of Actuarial Assumptions.

Net Pension Liability (Asset) is the difference in the Total Pension Liability and the Fiduciary Net Position.

Summary of Key Actuarial Assumptions for GASB Statement No. 68

Reporting Date	June 30, 2015
Measurement Date	June 30, 2014
Actuarial Valuation Date	June 30, 2014
Actuarial cost method	Entry Age Normal
Amortization method	Level dollar
Asset valuation method	Fair market value
Inflation	3.0 percent
Salary increases	Graded salary ranges from 8.97 to 3.71 percent based on age, including inflation, averaging 4.25 percent
Investment rate of return	7.5 percent, net of investment expense, including inflation
Retirement age	Pattern of retirement determined by experience study
Mortality	Customized table based on actual experience including an adjustment for some anticipated improvement
Cost of living adjustments	2.5 percent, if provided

Employees Covered by Benefit Terms at June 30, 2014

Inactive employees or beneficiaries currently receiving benefits	1
Inactive employees entitled to but not yet receiving benefits	1
Active employees	2
Total	4

A complete summary of the census data utilized in this report is available upon request.

Contributions

June 30, 2014 employer contributions	$23,134
Employer contribution rate	23.81%

Schedule of Changes in Net Pension Liability (Asset)

	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (Asset) (a) - (b)
Balance at June 30, 2013	$320,212	$209,691	$110,521
Service cost	1,834		1,834
Interest	24,153		24,153
Differences between expected and actual experience	12,639		12,639
Contributions-employer		23,134	(23,134)
Contributions-employee		4,858	(4,858)
Net investment income		37,076	(37,076)
Benefit payments, including refunds of employee contributions	0	0	
Administrative expense		(83)	83
Net changes	38,626	64,985	(26,359)
Balance at June 30, 2014	$358,838	$274,676	$84,162

Sensitivity of Net Pension Liability (Asset) to Changes in the Discount Rate

The following represents the net pension liability (asset) calculated using the stated discount rate, as well as what the net pension liability (asset) would be if it were calculated using a discount rate that is 1-percentage-point lower or 1-percentage-point higher than the current rate:

	1% Decrease (6.50%)	Current Rate (7.50%)	1% Increase (8.50%)
Net Pension Liability (Asset)	$135,990	$84,162	$40,194

Pension Expense (Income) and Deferred Outflows/Inflows of Resources

	Pension Expense (Income)
Service cost	$1,834
Interest	24,153
Contributions-employees	(4,858)
Projected investment income	(16,773)
Recognition of experience (gain)/loss	1,404
Recognition of investment (gain)/loss	(4,061)
Administrative expense	83
Pension Expense (Income)	$1,782

For the year ended June 30, 2015, the recognized pension expense (income) is $1,782. At June 30, 2015, deferred outflows of resources and deferred inflows of resources related to pensions are from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$11,235	$0
Changes of assumptions	0	0
Net difference between projected and actual earnings of pension plan investments	0	16,242
Total	$11,235	$16,242

Amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

Year ended June 30:	Outflows (a)	Inflows (b)	Amount Reported (a) + (b)
2015	$1,404	$(4,061)	$(2,657)
2016	1,404	(4,061)	(2,657)
2017	1,404	(4,061)	(2,657)
2018	1,404	(4,061)	(2,657)
2019	1,404	(4,061)	(2,657)
2020	1,404	0	1,404
Thereafter	4,212	0	4,212

Development of Deferred Outflows and Deferred Inflows

	Original Amount	Date Established	Original Period	Amount Recognized in Expense	Deferred Outflow Amount	Deferred Inflow Amount
Experience (gains) / losses	$12,639	6/30/2015	9	$1,404	$11,235	$(0)
		Total		$1,404	$11,235	$(0)
Investment (gains) / losses	$(20,303)	6/30/2015	5	$(4,061)	$0	$(16,242)
		Total		$(4,061)	$0	$(16,242)
Assumption changes	$0	6/30/2015	0	$0	$0	$(0)
		Total		$0	$0	$(0)

Schedule of Changes in the Net Pension Liability (Asset) and Related Ratios

for fiscal year ending June 30, 2015 (year shown is measurement date)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total Pension Liability										
Service cost	$1,834									
Interest	24,153									
Changes of benefit terms	0									
Differences between expected and actual experience	12,639									
Changes of assumptions	0									
Benefit Payments, including refunds of employee contributions	0									
Net Change in Total Pension Liability (Asset)	38,626									
Total Pension Liability (Asset) - beginning	320,212									
Total Pension Liability (Asset) - ending (a)	$358,838									
Plan Fiduciary Net Position										
Contributions - employer	$23,134									
Contributions - employee	4,858									
Net investment income	37,076									
Benefit Payments, including refunds of employee contributions	0									
Administrative expenses	(83)									
Other	0									
Net Change in Plan Fiduciary Net Position	$64,985									
Plan Fiduciary Net Position - beginning	209,691									
Plan Fiduciary Net Position - ending (b)	$274,676									
Net Pension Liability (Asset) - ending (a) - (b)	$84,162									
Plan Fiduciary Net Position as a % of the Total Pension Liability	76.55%									
Covered-employee payroll	$97,162									
Net Pension Liability (Asset) as a % of covered-employee payroll	86.62%									

Schedule of Contributions

	fiscal year ending June 30									
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Actuarially determined contribution	$23,134									
Contributions in relation to the actuarially determined contribution	23,134									
Contribution deficiency (excess)	$0									
Covered-employee payroll	$97,162									
Contributions as a percentage of covered-employee payroll	23.81%									

Notes to the Schedule Relating to the Actuarially Determined Contribution

Employer contributions for the year ended June 30, 2015 are based on the results of the July 1, 2013 actuarial valuation. Accordingly, governmental employers utilize the following notes to the schedule relating to the Actuarially Determined Contributions when presenting 2015. If 2015 is not presented, then a separate set of notes would apply.

Actuarial cost method	Frozen initial liability
Amortization method	Level dollar, closed (not to exceed 20 years)
Remaining amortization period	17 years
Asset valuation method	10-year smoothed within a 20 percent corridor to market value
Inflation	3.0 percent
Salary increases	Graded salary ranges from 8.97 to 3.71 percent based on age, including inflation, averaging 4.25 percent
Investment rate of return	7.5 percent, net of investment expense, including inflation
Retirement age	Pattern of retirement determined by experience study
Mortality	Customized table based on actual experience including an adjustment for some anticipated improvement
Cost of living adjustments	2.5 percent, if provided

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A Wells Fargo Company

Tennessee Consolidated Retirement System

PUTNAM COUNTY GENERAL FUND

GASB Statement No. 68

Actuarial Report
Reporting Date: June 30, 2015

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Accounting Governance Background

Statement No. 27 of the Governmental Accounting Standards Board was amended by Statement No. 68 of the Governmental Accounting Standards Board. Statement No. 68 became effective for employer financial statements for the fiscal year beginning after June 15, 2014. Statement No. 68 establishes financial reporting standards for state and local government employers with pension plans that are administered through trusts or equivalent arrangements. The objective of this statement is to improve the usefulness of the information included in employer financial statements.

Purpose and Use

This report has been prepared exclusively for the Tennessee Consolidated Retirement System. Actuarial computations under Statement No. 68 are for purposes of fulfilling employer governmental accounting requirements, and may not be appropriate for other purposes. The calculations reported herein have been made on a basis consistent with our understanding of the statement. Bryan, Pendleton, Swats & McAllister, LLC is not responsible for consequences resulting from the use of any part of this report without prior authorization or approval. This report provides actuarial advice and does not constitute legal, accounting, tax or investment advice. Determinations for other purposes, such as funding, bond ratings, or judging benefit security, may be significantly different from the results shown in this report.

Actuarial findings in this report are based on actuarial assumptions which reflect expected plan experience. Although the deviation of the actual future plan experience and the expected experience inherently creates some uncertainty with the results, in our opinion the actuarial assumptions reasonably reflect the expected future experience of the plan. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. All of these factors can cause volatility in the Net Pension Liability (Asset) over time.

Data

The calculations shown in this report have been prepared using employee data (including covered-employee payroll) and plan documentation furnished by the Tennessee Consolidated Retirement System as of June 30, 2014. Plan asset information was furnished by the Tennessee Consolidated Retirement System for the twelve month period ending June 30, 2014. While we have not audited the data, we have reviewed it for reasonableness and internal consistency. We have made reasonable assumptions with regard to any incomplete records, and to the best of our knowledge, there are no material limitations to the data provided. A complete summary of the census data utilized in this report is available upon request.

Subsequent Events

We are unaware of any subsequent event after June 30, 2015 which would have a material effect on the results presented in this report.

Assumptions, Methods, and Procedures

The results presented in this report comply with the assumptions, methods, and procedures under Statement No. 68. The results are based on a June 30, 2014 actuarial valuation date, a measurement date of June 30, 2014 and a reporting date of June 30, 2015. All assumptions are selected by the TCRS Board of Trustees. Statement No. 68 mandates the use of the Entry Age Normal actuarial funding method.

Changes in Plan Provisions, Actuarial Assumptions, and Actuarial Methods

No changes were made to the plan provisions, actuarial assumptions and methods at the June 30, 2014 actuarial valuation date compared to the most recent funding valuation completed as of July 1, 2013.

Summaries of the plan provisions and actuarial assumptions can be found in the Basis for Valuation section of this report and in the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013.

Professional Qualifications

This report has been prepared under the supervision of Justin C. Thacker, a member of the American Academy of Actuaries, a Fellow of the Society of Actuaries, and a consulting actuary with Bryan, Pendleton, Swats and McAllister, LLC, who has met the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions herein. To the best of our knowledge this report has been prepared in accordance with generally accepted actuarial standards and our understanding of Government Accounting Standards Board Statement No. 68, including the overall appropriateness of the analysis, assumptions, and results and conforms to appropriate Standards of Practice as promulgated from time to time by the Actuarial Standards Board, which standards form the basis for the actuarial report. We are not aware of any direct or material indirect financial interest or relationship that could create, or appear to create, a conflict of interest that would impair the objectivity of our work. The undersigned are available to provide supplemental information or explanation.

Justin Thacker

October 15, 2015

Justin C. Thacker
Fellow, Society of Actuaries
Enrollment No. 14-6078
Phone 615.665.5387

Date

Tim Lavender

October 15, 2015

Tim C. Lavender
Fellow, Society of Actuaries
Enrollment No. 14-6745
Phone 615.665.5305

Date

Summary of Plan Provisions

The actuarial valuation includes all benefits provided by the Tennessee Consolidated Retirement System to the current active and inactive plan members. Benefit provisions include retirement, death and disability benefits. If applicable, post-retirement cost of living adjustments are included. Please refer to the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013 for a complete summary of plan provisions.

Summary of Actuarial Assumptions and Methods

Investment Rate of Return

7.5 percent per annum, compounded annually

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees in conjunction with the June 30, 2012 actuarial experience study by considering the following three techniques: (1) the 25-year historical return of the TCRS at June 30, 2012, (2) the historical market returns of asset classes from 1926 to 2012 using the TCRS investment policy asset allocation, and (3) capital market projections that were utilized as a building-block method in which best-estimate ranges of expected future real rate of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. Four sources of capital market projections were blended and utilized in the third technique. The blended capital market projection established the long-term expected rate of return by weighting the expected future real rate of return by the target asset allocation percentage and by adding inflation of 3 percent. The target allocation and best estimates of arithmetic real rates of return for each major asset class are summarized in the following table:

Asset Class	**Long-Term Expected Real Rate of Return**	**Target Allocations**
U.S. equity	6.46%	33%
Developed market international equity	6.26%	17%
Emerging market international equity	6.40%	5%
Private equity and strategic lending	4.61%	8%
U.S. fixed income	0.98%	29%
Real estate	4.73%	7%
Short-term securities	0.00%	1%
		100%

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees as 7.5 percent based on a blending of the three techniques described above.

Discount Rate

7.5 percent per annum, compounded annually

Paragraph 29 of Statement No. 68 provides for an alternative method to be used other than the projection of the pension plan's fiduciary net position based on projected contributions, benefit payments and investment earnings. The current contribution policy requires contributions of the normal cost plus a closed amortization of the unfunded liabilities (not to exceed 30 years from when the unfunded liability was created). In addition, the employer has a documented history of contributing 100 percent of the actuarially determined contribution requirement. The discount rate utilized assumes that employee contributions will be made at the current applicable rate and that contributions from the employer will be made at the actuarially determined contribution rate pursuant to an actuarial valuation in accordance with the pension funding policy of the TCRS Board of Trustees and as required to be paid by state statute. Based on these assumptions and the actuarial methodology adopted, the employer's fiduciary net position is expected to remain positive and to be available to make projected future benefit payments of current active and inactive members and to cover administrative expenses. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Actuarial Valuation Method

All liabilities and normal costs shown in this report are calculated based on the Entry Age Normal method.

Asset Valuation Method

Fair Market Value

Amortization Method for GASB Statement No. 68

Level Dollar

Amortization Period for GASB Statement No. 68

Investment gains or losses are amortized over five years. Experience gains or losses and changes in actuarial assumptions are amortized over the average working lifetime of all participants. Plan amendments are recognized immediately.

Additional Assumptions

Please refer to the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013 for a complete summary of actuarial assumptions.

Selection of Assumptions

The TCRS Board of Trustees selected the assumptions described above based on the review of plan experience in conjunction with an experience study conducted as of June 30, 2012. A complete plan experience study is conducted every four years.

GASB Statement No. 68

This section presents specific information required under Statement No. 68. The information in this report is to satisfy the employer reporting for the pension plan. This section contains the following:

- Summary of Key Actuarial Assumptions for Statement No. 68
- Employees Covered by Benefit Terms at June 30, 2014
- Contributions
- Schedule of Changes in the Net Pension Liability (Asset)
- Sensitivity of Net Pension Liability (Asset) to Changes in the Discount Rate
- Pension Expense (Income) and Deferred Outflows/Inflows of Resources
- Schedule of Changes in Net Pension Liability (Asset) and Related Ratios
- Schedule of Contributions

Fiduciary Net Position is the amount of assets available for benefits in the Pension Plan.

Total Pension Liability is the plan liability determined using assumptions listed in the Summary of Actuarial Assumptions.

Net Pension Liability (Asset) is the difference in the Total Pension Liability and the Fiduciary Net Position.

Summary of Key Actuarial Assumptions for GASB Statement No. 68

Reporting Date	June 30, 2015
Measurement Date	June 30, 2014
Actuarial Valuation Date	June 30, 2014
Actuarial cost method	Entry Age Normal
Amortization method	Level dollar
Asset valuation method	Fair market value
Inflation	3.0 percent
Salary increases	Graded salary ranges from 8.97 to 3.71 percent based on age, including inflation, averaging 4.25 percent
Investment rate of return	7.5 percent, net of investment expense, including inflation
Retirement age	Pattern of retirement determined by experience study
Mortality	Customized table based on actual experience including an adjustment for some anticipated improvement
Cost of living adjustments	2.5 percent, if provided

Employees Covered by Benefit Terms at June 30, 2014

Inactive employees or beneficiaries currently receiving benefits		423
Inactive employees entitled to but not yet receiving benefits		916
Active employees		932
	Total	2,271

A complete summary of the census data utilized in this report is available upon request.

Contributions

June 30, 2014 employer contributions	$2,789,750
Employer contribution rate	10.40%

Schedule of Changes in Net Pension Liability (Asset)

	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (Asset) (a) - (b)
Balance at June 30, 2013	$76,571,263	$67,103,835	$9,467,428
Service cost	2,834,627		2,834,627
Interest	5,839,055		5,839,055
Differences between expected and actual experience	(1,180,708)		(1,180,708)
Contributions-employer		2,789,750	(2,789,750)
Contributions-employee		1,344,972	(1,344,972)
Net investment income		11,209,298	(11,209,298)
Benefit payments, including refunds of employee contributions	(3,103,658)	(3,103,658)	
Administrative expense		(37,923)	37,923
Net changes	4,389,316	12,202,439	(7,813,123)
Balance at June 30, 2014	$80,960,579	$79,306,274	$1,654,305

Sensitivity of Net Pension Liability (Asset) to Changes in the Discount Rate

The following represents the net pension liability (asset) calculated using the stated discount rate, as well as what the net pension liability (asset) would be if it were calculated using a discount rate that is 1-percentage-point lower or 1-percentage-point higher than the current rate:

	1% Decrease (6.50%)	Current Rate (7.50%)	1% Increase (8.50%)
Net Pension Liability (Asset)	$12,606,726	$1,654,305	$(7,402,163)

Pension Expense (Income) and Deferred Outflows/Inflows of Resources

	Pension Expense (Income)
Service cost	$2,834,627
Interest	5,839,055
Contributions-employees	(1,344,972)
Projected investment income	(5,070,030)
Recognition of experience (gain)/loss	(196,785)
Recognition of investment (gain)/loss	(1,227,854)
Administrative expense	37,923
Pension Expense (Income)	$871,964

For the year ended June 30, 2015, the recognized pension expense (income) is $871,964. At June 30, 2015, deferred outflows of resources and deferred inflows of resources related to pensions are from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$0	$983,923
Changes of assumptions	0	0
Net difference between projected and actual earnings of pension plan investments	0	4,911,414
Total	$0	$5,895,337

Amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

Year ended June 30:	Outflows (a)	Inflows (b)	Amount Reported (a) + (b)
2015	$0	$(1,424,639)	$(1,424,639)
2016	0	(1,424,639)	(1,424,639)
2017	0	(1,424,639)	(1,424,639)
2018	0	(1,424,639)	(1,424,639)
2019	0	(1,424,639)	(1,424,639)
2020	0	(196,785)	(196,785)
Thereafter	0	0	0

Development of Deferred Outflows and Deferred Inflows

	Original Amount	Date Established	Original Period	Amount Recognized in Expense	Deferred Outflow Amount	Deferred Inflow Amount
Experience (gains) / losses	$(1,180,708)	6/30/2015	6	$(196,785)	$0	$(983,923)
		Total		$(196,785)	$0	$(983,923)
Investment (gains) / losses	$(6,139,268)	6/30/2015	5	$(1,227,854)	$0	$(4,911,414)
		Total		$(1,227,854)	$0	$(4,911,414)
Assumption changes	$0	6/30/2015	0	$0	$0	$(0)
		Total		$0	$0	$(0)

Schedule of Changes in the Net Pension Liability (Asset) and Related Ratios

for fiscal year ending June 30, 2015 (year shown is measurement date)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total Pension Liability										
Service cost	$2,834,627									
Interest	5,839,055									
Changes of benefit terms	0									
Differences between expected and actual experience	(1,180,708)									
Changes of assumptions	0									
Benefit Payments, including refunds of employee contributions	(3,103,658)									
Net Change in Total Pension Liability (Asset)	4,389,316									
Total Pension Liability (Asset) - beginning	76,571,263									
Total Pension Liability (Asset) - ending (a)	$80,960,579									
Plan Fiduciary Net Position										
Contributions - employer	$2,789,750									
Contributions - employee	1,344,972									
Net investment income	11,209,298									
Benefit Payments, including refunds of employee contributions	(3,103,658)									
Administrative expenses	(37,923)									
Other	0									
Net Change in Plan Fiduciary Net Position	$12,202,439									
Plan Fiduciary Net Position - beginning	67,103,835									
Plan Fiduciary Net Position - ending (b)	$79,306,274									
Net Pension Liability (Asset) - ending (a) - (b)	$1,654,305									
Plan Fiduciary Net Position as a % of the Total Pension Liability	97.96%									
Covered-employee payroll	$26,837,192									
Net Pension Liability (Asset) as a % of covered-employee payroll	6.16%									

Schedule of Contributions

	fiscal year ending June 30									
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Actuarially determined contribution	$2,789,750									
Contributions in relation to the actuarially determined contribution	2,789,750									
Contribution deficiency (excess)	$0									
Covered-employee payroll	$26,837,192									
Contributions as a percentage of covered-employee payroll	10.40%									

Notes to the Schedule Relating to the Actuarially Determined Contribution

Employer contributions for the year ended June 30, 2015 are based on the results of the July 1, 2013 actuarial valuation. Accordingly, governmental employers utilize the following notes to the schedule relating to the Actuarially Determined Contributions when presenting 2015. If 2015 is not presented, then a separate set of notes would apply.

Actuarial cost method	Frozen initial liability
Amortization method	Level dollar, closed (not to exceed 20 years)
Remaining amortization period	5 years
Asset valuation method	10-year smoothed within a 20 percent corridor to market value
Inflation	3.0 percent
Salary increases	Graded salary ranges from 8.97 to 3.71 percent based on age, including inflation, averaging 4.25 percent
Investment rate of return	7.5 percent, net of investment expense, including inflation
Retirement age	Pattern of retirement determined by experience study
Mortality	Customized table based on actual experience including an adjustment for some anticipated improvement
Cost of living adjustments	2.5 percent, if provided

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A Wells Fargo Company

Tennessee Consolidated Retirement System

BELLE MEADE CITY OF

GASB Statement No. 68

Actuarial Report
Reporting Date: June 30, 2015

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Accounting Governance Background

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Actuarial findings in this report are based on actuarial assumptions which reflect expected plan experience. Although the deviation of the actual future plan experience and the expected experience inherently creates some uncertainty with the results, in our opinion the actuarial assumptions reasonably reflect the expected future experience of the plan. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan’s funded status); and changes in plan provisions or applicable law. All of these factors can cause volatility in the Net Pension Liability (Asset) over time.

Data

The calculations shown in this report have been prepared using employee data (including covered-employee payroll) and plan documentation furnished by the Tennessee Consolidated Retirement System as of June 30, 2014. Plan asset information was furnished by the Tennessee Consolidated Retirement System for the twelve month period ending June 30, 2014. While we have not audited the data, we have reviewed it for reasonableness and internal consistency. We have made reasonable assumptions with regard to any incomplete records, and to the best of our knowledge, there are no material limitations to the data provided. A complete summary of the census data utilized in this report is available upon request.

Subsequent Events

We are unaware of any subsequent event after June 30, 2015 which would have a material effect on the results presented in this report.

Assumptions, Methods, and Procedures

The results presented in this report comply with the assumptions, methods, and procedures under Statement No. 68. The results are based on a June 30, 2014 actuarial valuation date, a measurement date of June 30, 2014 and a reporting date of June 30, 2015. All assumptions are selected by the TCRS Board of Trustees. Statement No. 68 mandates the use of the Entry Age Normal actuarial funding method.

Changes in Plan Provisions, Actuarial Assumptions, and Actuarial Methods

No changes were made to the plan provisions, actuarial assumptions and methods at the June 30, 2014 actuarial valuation date compared to the most recent funding valuation completed as of July 1, 2013.

Summaries of the plan provisions and actuarial assumptions can be found in the Basis for Valuation section of this report and in the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013.

Professional Qualifications

This report has been prepared under the supervision of Justin C. Thacker, a member of the American Academy of Actuaries, a Fellow of the Society of Actuaries, and a consulting actuary with Bryan, Pendleton, Swats and McAllister, LLC, who has met the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions herein. To the best of our knowledge this report has been prepared in accordance with generally accepted actuarial standards and our understanding of Government Accounting Standards Board Statement No. 68, including the overall appropriateness of the analysis, assumptions, and results and conforms to appropriate Standards of Practice as promulgated from time to time by the Actuarial Standards Board, which standards form the basis for the actuarial report. We are not aware of any direct or material indirect financial interest or relationship that could create, or appear to create, a conflict of interest that would impair the objectivity of our work. The undersigned are available to provide supplemental information or explanation.

Justin C. Thacker Fellow, Society of Actuaries Enrollment No. 14-6078 Phone 615.665.5387	October 15, 2015 Date
Tim C. Lavender Fellow, Society of Actuaries Enrollment No. 14-6745 Phone 615.665.5305	October 15, 2015 Date

Summary of Plan Provisions

The actuarial valuation includes all benefits provided by the Tennessee Consolidated Retirement System to the current active and inactive plan members. Benefit provisions include retirement, death and disability benefits. If applicable, post-retirement cost of living adjustments are included. Please refer to the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013 for a complete summary of plan provisions.

Summary of Actuarial Assumptions and Methods

Investment Rate of Return

7.5 percent per annum, compounded annually

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees in conjunction with the June 30, 2012 actuarial experience study by considering the following three techniques: (1) the 25-year historical return of the TCRS at June 30, 2012, (2) the historical market returns of asset classes from 1926 to 2012 using the TCRS investment policy asset allocation, and (3) capital market projections that were utilized as a building-block method in which best-estimate ranges of expected future real rate of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. Four sources of capital market projections were blended and utilized in the third technique. The blended capital market projection established the long-term expected rate of return by weighting the expected future real rate of return by the target asset allocation percentage and by adding inflation of 3 percent. The target allocation and best estimates of arithmetic real rates of return for each major asset class are summarized in the following table:

Asset Class	**Long-Term Expected Real Rate of Return**	**Target Allocations**
U.S. equity	6.46%	33%
Developed market international equity	6.26%	17%
Emerging market international equity	6.40%	5%
Private equity and strategic lending	4.61%	8%
U.S. fixed income	0.98%	29%
Real estate	4.73%	7%
Short-term securities	0.00%	1%
		100%

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees as 7.5 percent based on a blending of the three techniques described above.

Discount Rate

7.5 percent per annum, compounded annually

Paragraph 29 of Statement No. 68 provides for an alternative method to be used other than the projection of the pension plan's fiduciary net position based on projected contributions, benefit payments and investment earnings. The current contribution policy requires contributions of the normal cost plus a closed amortization of the unfunded liabilities (not to exceed 30 years from when the unfunded liability was created). In addition, the employer has a documented history of contributing 100 percent of the actuarially determined contribution requirement. The discount rate utilized assumes that employee contributions will be made at the current applicable rate and that contributions from the employer will be made at the actuarially determined contribution rate pursuant to an actuarial valuation in accordance with the pension funding policy of the TCRS Board of Trustees and as required to be paid by state statute. Based on these assumptions and the actuarial methodology adopted, the employer's fiduciary net position is expected to remain positive and to be available to make projected future benefit payments of current active and inactive members and to cover administrative expenses. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Actuarial Valuation Method

All liabilities and normal costs shown in this report are calculated based on the Entry Age Normal method.

Asset Valuation Method

Fair Market Value

Amortization Method for GASB Statement No. 68

Level Dollar

Amortization Period for GASB Statement No. 68

Investment gains or losses are amortized over five years. Experience gains or losses and changes in actuarial assumptions are amortized over the average working lifetime of all participants. Plan amendments are recognized immediately.

Additional Assumptions

Please refer to the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013 for a complete summary of actuarial assumptions.

Selection of Assumptions

The TCRS Board of Trustees selected the assumptions described above based on the review of plan experience in conjunction with an experience study conducted as of June 30, 2012. A complete plan experience study is conducted every four years.

GASB Statement No. 68

This section presents specific information required under Statement No. 68. The information in this report is to satisfy the employer reporting for the pension plan. This section contains the following:

- Summary of Key Actuarial Assumptions for Statement No. 68
- Employees Covered by Benefit Terms at June 30, 2014
- Contributions
- Schedule of Changes in the Net Pension Liability (Asset)
- Sensitivity of Net Pension Liability (Asset) to Changes in the Discount Rate
- Pension Expense (Income) and Deferred Outflows/Inflows of Resources
- Schedule of Changes in Net Pension Liability (Asset) and Related Ratios
- Schedule of Contributions

Fiduciary Net Position is the amount of assets available for benefits in the Pension Plan.

Total Pension Liability is the plan liability determined using assumptions listed in the Summary of Actuarial Assumptions.

Net Pension Liability (Asset) is the difference in the Total Pension Liability and the Fiduciary Net Position.

Summary of Key Actuarial Assumptions for GASB Statement No. 68

Reporting Date	June 30, 2015
Measurement Date	June 30, 2014
Actuarial Valuation Date	June 30, 2014
Actuarial cost method	Entry Age Normal
Amortization method	Level dollar
Asset valuation method	Fair market value
Inflation	3.0 percent
Salary increases	Graded salary ranges from 8.97 to 3.71 percent based on age, including inflation, averaging 4.25 percent
Investment rate of return	7.5 percent, net of investment expense, including inflation
Retirement age	Pattern of retirement determined by experience study
Mortality	Customized table based on actual experience including an adjustment for some anticipated improvement
Cost of living adjustments	2.5 percent, if provided

Employees Covered by Benefit Terms at June 30, 2014

Inactive employees or beneficiaries currently receiving benefits	16
Inactive employees entitled to but not yet receiving benefits	21
Active employees	27
Total	64

A complete summary of the census data utilized in this report is available upon request.

Contributions

June 30, 2014 employer contributions	$71,089
Employer contribution rate	5.44%

Schedule of Changes in Net Pension Liability (Asset)

	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (Asset) (a) - (b)
Balance at June 30, 2013	$3,527,453	$3,300,410	$227,043
Service cost	78,695		78,695
Interest	264,079		264,079
Differences between expected and actual experience	(27,181)		(27,181)
Contributions-employer		71,089	(71,089)
Contributions-employee		0	0
Net investment income		538,990	(538,990)
Benefit payments, including refunds of employee contributions	(170,198)	(170,198)	
Administrative expense		(1,116)	1,116
Net changes	145,395	438,765	(293,370)
Balance at June 30, 2014	$3,672,848	$3,739,175	$(66,327)

Sensitivity of Net Pension Liability (Asset) to Changes in the Discount Rate

The following represents the net pension liability (asset) calculated using the stated discount rate, as well as what the net pension liability (asset) would be if it were calculated using a discount rate that is 1-percentage-point lower or 1-percentage-point higher than the current rate:

	1% Decrease (6.50%)	Current Rate (7.50%)	1% Increase (8.50%)
Net Pension Liability (Asset)	$371,306	$(66,327)	$(438,931)

Pension Expense (Income) and Deferred Outflows/Inflows of Resources

	Pension Expense (Income)
Service cost	$78,695
Interest	264,079
Contributions-employees	0
Projected investment income	(243,772)
Recognition of experience (gain)/loss	(3,398)
Recognition of investment (gain)/loss	(59,044)
Administrative expense	1,116
Pension Expense (Income)	$37,676

For the year ended June 30, 2015, the recognized pension expense (income) is $37,676. At June 30, 2015, deferred outflows of resources and deferred inflows of resources related to pensions are from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$0	$23,783
Changes of assumptions	0	0
Net difference between projected and actual earnings of pension plan investments	0	236,174
Total	$0	$259,957

Amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

Year ended June 30:	Outflows (a)	Inflows (b)	Amount Reported (a) + (b)
2015	$0	$(62,442)	$(62,442)
2016	0	(62,442)	(62,442)
2017	0	(62,442)	(62,442)
2018	0	(62,442)	(62,442)
2019	0	(62,442)	(62,442)
2020	0	(3,398)	(3,398)
Thereafter	0	(6,796)	(6,796)

Development of Deferred Outflows and Deferred Inflows

	Original Amount	Date Established	Original Period	Amount Recognized in Expense	Deferred Outflow Amount	Deferred Inflow Amount
Experience (gains) / losses	$(27,181)	6/30/2015	8	$(3,398)	$0	$(23,783)
		Total		$(3,398)	$0	$(23,783)
Investment (gains) / losses	$(295,218)	6/30/2015	5	$(59,044)	$0	$(236,174)
		Total		$(59,044)	$0	$(236,174)
Assumption changes	$0	6/30/2015	0	$0	$0	$(0)
		Total		$0	$0	$(0)

Schedule of Changes in the Net Pension Liability (Asset) and Related Ratios

for fiscal year ending June 30, 2015 (year shown is measurement date)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total Pension Liability										
Service cost	$78,695									
Interest	264,079									
Changes of benefit terms	0									
Differences between expected and actual experience	(27,181)									
Changes of assumptions	0									
Benefit Payments, including refunds of employee contributions	(170,198)									
Net Change in Total Pension Liability (Asset)	145,395									
Total Pension Liability (Asset) - beginning	3,527,453									
Total Pension Liability (Asset) - ending (a)	$3,672,848									
Plan Fiduciary Net Position										
Contributions - employer	$71,089									
Contributions - employee	0									
Net investment income	538,990									
Benefit Payments, including refunds of employee contributions	(170,198)									
Administrative expenses	(1,116)									
Other	0									
Net Change in Plan Fiduciary Net Position	$438,765									
Plan Fiduciary Net Position - beginning	3,300,410									
Plan Fiduciary Net Position - ending (b)	$3,739,175									
Net Pension Liability (Asset) - ending (a) - (b)	$(66,327)									
Plan Fiduciary Net Position as a % of the Total Pension Liability	101.81%									
Covered-employee payroll	$1,306,781									
Net Pension Liability (Asset) as a % of covered-employee payroll	(5.08%)									

Schedule of Contributions

	fiscal year ending June 30									
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Actuarially determined contribution	$71,089									
Contributions in relation to the actuarially determined contribution	71,089									
Contribution deficiency (excess)	$0									
Covered-employee payroll	$1,306,781									
Contributions as a percentage of covered-employee payroll	5.44%									

Notes to the Schedule Relating to the Actuarially Determined Contribution

Employer contributions for the year ended June 30, 2015 are based on the results of the July 1, 2013 actuarial valuation. Accordingly, governmental employers utilize the following notes to the schedule relating to the Actuarially Determined Contributions when presenting 2015. If 2015 is not presented, then a separate set of notes would apply.

Actuarial cost method	Frozen initial liability
Amortization method	Level dollar, closed (not to exceed 20 years)
Remaining amortization period	20 years
Asset valuation method	10-year smoothed within a 20 percent corridor to market value
Inflation	3.0 percent
Salary increases	Graded salary ranges from 8.97 to 3.71 percent based on age, including inflation, averaging 4.25 percent
Investment rate of return	7.5 percent, net of investment expense, including inflation
Retirement age	Pattern of retirement determined by experience study
Mortality	Customized table based on actual experience including an adjustment for some anticipated improvement
Cost of living adjustments	2.5 percent, if provided

BPS&M
Bryan, Pendleton, Swats & McAllister, LLC
A Wells Fargo Company

Tennessee Consolidated Retirement System

COWAN CITY OF

GASB Statement No. 68

Actuarial Report
Reporting Date: June 30, 2015

Table of Contents

Accounting Governance Background

Statement No. 27 of the Governmental Accounting Standards Board was amended by Statement No. 68 of the Governmental Accounting Standards Board. Statement No. 68 became effective for employer financial statements for the fiscal year beginning after June 15, 2014. Statement No. 68 establishes financial reporting standards for state and local government employers with pension plans that are administered through trusts or equivalent arrangements. The objective of this statement is to improve the usefulness of the information included in employer financial statements.

Purpose and Use

This report has been prepared exclusively for the Tennessee Consolidated Retirement System. Actuarial computations under Statement No. 68 are for purposes of fulfilling employer governmental accounting requirements, and may not be appropriate for other purposes. The calculations reported herein have been made on a basis consistent with our understanding of the statement. Bryan, Pendleton, Swats & McAllister, LLC is not responsible for consequences resulting from the use of any part of this report without prior authorization or approval. This report provides actuarial advice and does not constitute legal, accounting, tax or investment advice. Determinations for other purposes, such as funding, bond ratings, or judging benefit security, may be significantly different from the results shown in this report.

Actuarial findings in this report are based on actuarial assumptions which reflect expected plan experience. Although the deviation of the actual future plan experience and the expected experience inherently creates some uncertainty with the results, in our opinion the actuarial assumptions reasonably reflect the expected future experience of the plan. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. All of these factors can cause volatility in the Net Pension Liability (Asset) over time.

Data

The calculations shown in this report have been prepared using employee data (including covered-employee payroll) and plan documentation furnished by the Tennessee Consolidated Retirement System as of June 30, 2014. Plan asset information was furnished by the Tennessee Consolidated Retirement System for the twelve month period ending June 30, 2014. While we have not audited the data, we have reviewed it for reasonableness and internal consistency. We have made reasonable assumptions with regard to any incomplete records, and to the best of our knowledge, there are no material limitations to the data provided. A complete summary of the census data utilized in this report is available upon request.

Subsequent Events

We are unaware of any subsequent event after June 30, 2015 which would have a material effect on the results presented in this report.

Assumptions, Methods, and Procedures

The results presented in this report comply with the assumptions, methods, and procedures under Statement No. 68. The results are based on a June 30, 2014 actuarial valuation date, a measurement date of June 30, 2014 and a reporting date of June 30, 2015. All assumptions are selected by the TCRS Board of Trustees. Statement No. 68 mandates the use of the Entry Age Normal actuarial funding method.

Changes in Plan Provisions, Actuarial Assumptions, and Actuarial Methods

No changes were made to the plan provisions, actuarial assumptions and methods at the June 30, 2014 actuarial valuation date compared to the most recent funding valuation completed as of July 1, 2013.

Summaries of the plan provisions and actuarial assumptions can be found in the Basis for Valuation section of this report and in the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013.

Professional Qualifications

This report has been prepared under the supervision of Justin C. Thacker, a member of the American Academy of Actuaries, a Fellow of the Society of Actuaries, and a consulting actuary with Bryan, Pendleton, Swats and McAllister, LLC, who has met the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions herein. To the best of our knowledge this report has been prepared in accordance with generally accepted actuarial standards and our understanding of Government Accounting Standards Board Statement No. 68, including the overall appropriateness of the analysis, assumptions, and results and conforms to appropriate Standards of Practice as promulgated from time to time by the Actuarial Standards Board, which standards form the basis for the actuarial report. We are not aware of any direct or material indirect financial interest or relationship that could create, or appear to create, a conflict of interest that would impair the objectivity of our work. The undersigned are available to provide supplemental information or explanation.

Justin C. Thacker
Fellow, Society of Actuaries
Enrollment No. 14-6078
Phone 615.665.5387

October 15, 2015
Date

Tim C. Lavender
Fellow, Society of Actuaries
Enrollment No. 14-6745
Phone 615.665.5305

October 15, 2015
Date

Summary of Plan Provisions

The actuarial valuation includes all benefits provided by the Tennessee Consolidated Retirement System to the current active and inactive plan members. Benefit provisions include retirement, death and disability benefits. If applicable, post-retirement cost of living adjustments are included. Please refer to the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013 for a complete summary of plan provisions.

Summary of Actuarial Assumptions and Methods

Investment Rate of Return

7.5 percent per annum, compounded annually

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees in conjunction with the June 30, 2012 actuarial experience study by considering the following three techniques: (1) the 25-year historical return of the TCRS at June 30, 2012, (2) the historical market returns of asset classes from 1926 to 2012 using the TCRS investment policy asset allocation, and (3) capital market projections that were utilized as a building-block method in which best-estimate ranges of expected future real rate of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. Four sources of capital market projections were blended and utilized in the third technique. The blended capital market projection established the long-term expected rate of return by weighting the expected future real rate of return by the target asset allocation percentage and by adding inflation of 3 percent. The target allocation and best estimates of arithmetic real rates of return for each major asset class are summarized in the following table:

Asset Class	**Long-Term Expected Real Rate of Return**	**Target Allocations**
U.S. equity	6.46%	33%
Developed market international equity	6.26%	17%
Emerging market international equity	6.40%	5%
Private equity and strategic lending	4.61%	8%
U.S. fixed income	0.98%	29%
Real estate	4.73%	7%
Short-term securities	0.00%	1%
		100%

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees as 7.5 percent based on a blending of the three techniques described above.

Discount Rate

7.5 percent per annum, compounded annually

Paragraph 29 of Statement No. 68 provides for an alternative method to be used other than the projection of the pension plan's fiduciary net position based on projected contributions, benefit payments and investment earnings. The current contribution policy requires contributions of the normal cost plus a closed amortization of the unfunded liabilities (not to exceed 30 years from when the unfunded liability was created). In addition, the employer has a documented history of contributing 100 percent of the actuarially determined contribution requirement. The discount rate utilized assumes that employee contributions will be made at the current applicable rate and that contributions from the employer will be made at the actuarially determined contribution rate pursuant to an actuarial valuation in accordance with the pension funding policy of the TCRS Board of Trustees and as required to be paid by state statute. Based on these assumptions and the actuarial methodology adopted, the employer's fiduciary net position is expected to remain positive and to be available to make projected future benefit payments of current active and inactive members and to cover administrative expenses. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Actuarial Valuation Method

All liabilities and normal costs shown in this report are calculated based on the Entry Age Normal method.

Asset Valuation Method

Fair Market Value

Amortization Method for GASB Statement No. 68

Level Dollar

Amortization Period for GASB Statement No. 68

Investment gains or losses are amortized over five years. Experience gains or losses and changes in actuarial assumptions are amortized over the average working lifetime of all participants. Plan amendments are recognized immediately.

Additional Assumptions

Please refer to the Tennessee Consolidated Retirement System actuarial valuation funding report as of July 1, 2013 for a complete summary of actuarial assumptions.

Selection of Assumptions

The TCRS Board of Trustees selected the assumptions described above based on the review of plan experience in conjunction with an experience study conducted as of June 30, 2012. A complete plan experience study is conducted every four years.

GASB Statement No. 68

This section presents specific information required under Statement No. 68. The information in this report is to satisfy the employer reporting for the pension plan. This section contains the following:

- Summary of Key Actuarial Assumptions for Statement No. 68
- Employees Covered by Benefit Terms at June 30, 2014
- Contributions
- Schedule of Changes in the Net Pension Liability (Asset)
- Sensitivity of Net Pension Liability (Asset) to Changes in the Discount Rate
- Pension Expense (Income) and Deferred Outflows/Inflows of Resources
- Schedule of Changes in Net Pension Liability (Asset) and Related Ratios
- Schedule of Contributions

Fiduciary Net Position is the amount of assets available for benefits in the Pension Plan.

Total Pension Liability is the plan liability determined using assumptions listed in the Summary of Actuarial Assumptions.

Net Pension Liability (Asset) is the difference in the Total Pension Liability and the Fiduciary Net Position.

Summary of Key Actuarial Assumptions for GASB Statement No. 68

Reporting Date	June 30, 2015
Measurement Date	June 30, 2014
Actuarial Valuation Date	June 30, 2014
Actuarial cost method	Entry Age Normal
Amortization method	Level dollar
Asset valuation method	Fair market value
Inflation	3.0 percent
Salary increases	Graded salary ranges from 8.97 to 3.71 percent based on age, including inflation, averaging 4.25 percent
Investment rate of return	7.5 percent, net of investment expense, including inflation
Retirement age	Pattern of retirement determined by experience study
Mortality	Customized table based on actual experience including an adjustment for some anticipated improvement
Cost of living adjustments	2.5 percent, if provided

Employees Covered by Benefit Terms at June 30, 2014

Inactive employees or beneficiaries currently receiving benefits	6
Inactive employees entitled to but not yet receiving benefits	13
Active employees	13
Total	32

A complete summary of the census data utilized in this report is available upon request.

Contributions

June 30, 2014 employer contributions	$0
Employer contribution rate	0.00%

Schedule of Changes in Net Pension Liability (Asset)

	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (Asset) (a) - (b)
Balance at June 30, 2013	$1,090,071	$1,362,907	$(272,836)
Service cost	36,352		36,352
Interest	80,801		80,801
Differences between expected and actual experience	(20,940)		(20,940)
Contributions-employer		0	0
Contributions-employee		23,525	(23,525)
Net investment income		219,705	(219,705)
Benefit payments, including refunds of employee contributions	(98,151)	(98,151)	
Administrative expense		(588)	588
Net changes	(1,938)	144,491	(146,429)
Balance at June 30, 2014	$1,088,133	$1,507,398	$(419,265)

Sensitivity of Net Pension Liability (Asset) to Changes in the Discount Rate

The following represents the net pension liability (asset) calculated using the stated discount rate, as well as what the net pension liability (asset) would be if it were calculated using a discount rate that is 1-percentage-point lower or 1-percentage-point higher than the current rate:

	1% Decrease (6.50%)	Current Rate (7.50%)	1% Increase (8.50%)
Net Pension Liability (Asset)	$(271,745)	$(419,265)	$(543,252)

Pension Expense (Income) and Deferred Outflows/Inflows of Resources

	Pension Expense (Income)
Service cost	$36,352
Interest	80,801
Contributions-employees	(23,525)
Projected investment income	(99,398)
Recognition of experience (gain)/loss	(2,327)
Recognition of investment (gain)/loss	(24,061)
Administrative expense	588
Pension Expense (Income)	$(31,570)

For the year ended June 30, 2015, the recognized pension expense (income) is $(31,570). At June 30, 2015, deferred outflows of resources and deferred inflows of resources related to pensions are from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	$0	$18,613
Changes of assumptions	0	0
Net difference between projected and actual earnings of pension plan investments	0	96,246
Total	$0	$114,859

Amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

Year ended June 30:	Outflows (a)	Inflows (b)	Amount Reported (a) + (b)
2015	$0	$(26,388)	$(26,388)
2016	0	(26,388)	(26,388)
2017	0	(26,388)	(26,388)
2018	0	(26,388)	(26,388)
2019	0	(26,388)	(26,388)
2020	0	(2,327)	(2,327)
Thereafter	0	(6,981)	(6,981)

Development of Deferred Outflows and Deferred Inflows

	Original Amount	Date Established	Original Period	Amount Recognized in Expense	Deferred Outflow Amount	Deferred Inflow Amount
Experience (gains) / losses	$(20,940)	6/30/2015	9	$(2,327)	$0	$(18,613)
		Total		$(2,327)	$0	$(18,613)
Investment (gains) / losses	$(120,307)	6/30/2015	5	$(24,061)	$0	$(96,246)
		Total		$(24,061)	$0	$(96,246)
Assumption changes	$0	6/30/2015	0	$0	$0	$(0)
		Total		$0	$0	$(0)

Schedule of Changes in the Net Pension Liability (Asset) and Related Ratios

for fiscal year ending June 30, 2015 (year shown is measurement date)

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total Pension Liability										
Service cost	$36,352									
Interest	80,801									
Changes of benefit terms	0									
Differences between expected and actual experience	(20,940)									
Changes of assumptions	0									
Benefit Payments, including refunds of employee contributions	(98,151)									
Net Change in Total Pension Liability (Asset)	(1,938)									
Total Pension Liability (Asset) - beginning	1,090,071									
Total Pension Liability (Asset) - ending (a)	$1,088,133									
Plan Fiduciary Net Position										
Contributions - employer	$0									
Contributions - employee	23,525									
Net investment income	219,705									
Benefit Payments, including refunds of employee contributions	(98,151)									
Administrative expenses	(588)									
Other	0									
Net Change in Plan Fiduciary Net Position	$144,491									
Plan Fiduciary Net Position - beginning	1,362,907									
Plan Fiduciary Net Position - ending (b)	$1,507,398									
Net Pension Liability (Asset) - ending (a) - (b)	$(419,265)									
Plan Fiduciary Net Position as a % of the Total Pension Liability	138.53%									
Covered-employee payroll	$470,493									
Net Pension Liability (Asset) as a % of covered-employee payroll	(89.11%)									

Schedule of Contributions

	fiscal year ending June 30									
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Actuarially determined contribution	$0									
Contributions in relation to the actuarially determined contribution	0									
Contribution deficiency (excess)	$0									
Covered-employee payroll	$470,493									
Contributions as a percentage of covered-employee payroll	0.00%									

Notes to the Schedule Relating to the Actuarially Determined Contribution

Employer contributions for the year ended June 30, 2015 are based on the results of the July 1, 2013 actuarial valuation. Accordingly, governmental employers utilize the following notes to the schedule relating to the Actuarially Determined Contributions when presenting 2015. If 2015 is not presented, then a separate set of notes would apply.

Actuarial cost method	Frozen initial liability
Amortization method	Level dollar, closed (not to exceed 20 years)
Remaining amortization period	1 years
Asset valuation method	10-year smoothed within a 20 percent corridor to market value
Inflation	3.0 percent
Salary increases	Graded salary ranges from 8.97 to 3.71 percent based on age, including inflation, averaging 4.25 percent
Investment rate of return	7.5 percent, net of investment expense, including inflation
Retirement age	Pattern of retirement determined by experience study
Mortality	Customized table based on actual experience including an adjustment for some anticipated improvement
Cost of living adjustments	2.5 percent, if provided